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ABSTRACT

This symposium report consists of a 22-page report by Breneman and Haarlow, followed by 28 pages containing separate commentaries by Robert M. Costrell, David H. Ponitz, and Laurence Steinberg, respectively. The report builds on earlier research into the costs of remedial education as it relates to the total higher education expenditures in the U.S. Data on the cost of remedial programs and the ages of students enrolled were requested from all 50 states. In addition site visits were made to five states (California, Florida, Maryland, Ohio, and Texas) as well as to the National Center for Development Education (NCDE) in Boone, North Carolina. This study supports the earlier estimate that remedial education costs public colleges and universities about \$1 billion annually, or roughly 1 percent of the institutions' current revenues of \$115 billion. The report's introduction includes a brief description of the terminology and a history of remedial education in the United States. Following is a discussion of the 50-state surveys of costs and enrollments. Next, data from the five state site visits are presented, as are the age distribution findings of the NCDE national study. Finally, the nature of remedial courses and remedial education faculty are discussed. (MAB)

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OUTSIDE THE BOX

Remediation in Higher Education

by
David W. Breneman
William N. Haarlow

with commentaries by
Robert M. Costrell
David H. Ponitz
Laurence Steinberg

JULY 1998

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Fordham Report

Vol. 2, No. 9

July 1998

Remediation in Higher Education *A Symposium*

featuring

Remedial Education: Costs and Consequences

by

David W. Breneman and William N. Haarlow

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Foreword

When the board of trustees of the City University of New York (CUNY) voted not long ago to stop offering "remedial" education on that vast system's four-year campuses (though the practice continues on a large scale in CUNY's community colleges), you might have thought the sky had fallen. The decision was denounced by many educators (and praised by a few) and condemned by fashionable pundits and editorial writers.

Though the Thomas B. Fordham Foundation does not routinely focus on higher education issues, remediation is one that intersects in a big way with the K-12 system. Remediation is what happens on the college campus after an ill-prepared student is admitted. But why was that student ill-prepared? And what does the fact that he or she was admitted to college anyway signal to the K-12 system—and to those seeking to reform it?

Thus arises this Foundation's interest in remediation in higher education.

We began with a specific question: just how much *money* does it cost? It seemed to us that, when the taxpayer supports remedial education on the college campus, he is, in effect, paying twice: first for the elementary and secondary schools that didn't do the job they were supposed to, and then for the colleges to rectify the situation. Yet while we could find reasonably complete data on how many college students take remedial courses, we couldn't find much about the pricetag.

So we asked Dave Breneman to have a look. A former colleague and co-author of mine at the Brookings Institution, Dave is one of the handful of U.S. economists who specialize in higher education. Now dean of education at the University of Virginia, he had already made a preliminary study of the costs of remediation for a Brookings conference. We asked him to carry it the next step and, with the considerable help of William Haarlow, that is just what he has done.

But the topic turned out to be more complicated than perhaps any of us expected. First, there is the distinction between "remedial" and "developmental" education. It's one thing to blame the K-12 system when a 19-year-old freshman can scarcely write and do math, but quite another when the student in the "remedial" course is 38 years old and enrolling in a community college in order to gain the skills needed for a better job in a changing economy. The 38-year-old may be taking the same course as the 19-year-old, but is it truly "remedial" for him? Probably not.

As we probed deeper, it also became clear that the "costs" of remediation are considerably more intricate and extensive than one can discern from inspecting a line item or two in a state or university budget. (A study of the "benefits" of the remediation, which this is not, would presumably be just as involved.)

We concluded, therefore, that you would learn more about the dimensions of this issue if several thoughtful commentators added their perspectives to the trove of data and analysis gathered by Messrs. Breneman and Haarlow. So we asked three of the best and most thoughtful: another distinguished economist, a first-rate psychologist who has closely studied these issues, and one of the most successful community college presidents ever.

What was once a paper has evolved into a full-fledged symposium. It does not yield a consensus. But it affords the reader a great deal of information, insight and thoughtful

interpretation on this hot and extremely important issue. It may not settle your mind on whether the CUNY trustees made the right decision, but it will surely help you understand what is at issue.

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Chester E. Finn, Jr., President
Thomas B. Fordham Foundation
Washington, D.C.
July 1998

Remedial Education: Costs and Consequences

by

David W. Breneman and William N. Haarlow

Introduction

Remedial postsecondary education is under siege nationwide. Several months ago, New York City Mayor Rudolph Giuliani proposed to privatize the remedial courses now taught by the City University of New York's six community colleges. "The community colleges in New York City are the end result of a disaster that we weren't doing anything about," the Mayor said. "There comes a point, after 15 years of tragically plummeting graduation rates and a total evisceration of standards, that somebody has to say, 'this isn't working.'" Christopher M. Kimmich, CUNY's interim chancellor, countered that it was important to note that "55 percent of community-college freshmen were not recent high-school graduates and that more than 56 percent of them did not speak English as their first language."¹

Ultimately the Mayor's proposal was not accepted. Instead, a contentious compromise was reached. CUNY four-year colleges will no longer admit students requiring remediation, although CUNY's community colleges will still offer remedial programs. While the present study does not seek to address all aspects of this controversial issue, it does represent an effort to examine the extent and cost of remediation nationally, with a particular focus on traditional-age first-time college freshmen.

This report builds on an earlier paper by Breneman, prepared for the Brookings Institution, and published in *Brookings Papers on Education Policy* 1998. Entitled "Remediation in Higher Education: Its Extent and Cost,"² that paper summarized findings on the amount of remedial education offered in colleges and universities, and made a preliminary estimate of the budgetary cost of such programs in public two-year and four-year colleges and universities. The essential findings of that paper were that remediation takes place in all community colleges, in four out of five public four year universities, and in more than six out of ten private four-year institutions. Furthermore, in the fall of 1995, nearly three out of ten first-time freshmen enrolled in at least one remedial course. To estimate the annual budgetary cost of these programs, data from Texas and Maryland were extrapolated to the nation, with one estimate being \$911 million, the other \$1.05 billion. In a commentary on the paper, Ansley A. Abraham, Jr., performed several additional estimates of national cost, and produced figures ranging from \$260 million to just over \$1 billion.³ Both the author and Abraham argued that such cost estimates, amounting to less than one percent of the annual budgets of public institutions of higher educa-

tion, represent a reasonable public investment of funds, if the alternative were to deny access to higher education to students requiring remedial work.

A concern about the earlier paper was that it was based on limited data about costs, and was done without the benefit of site visits to several states to learn more about the institutional management and delivery of remedial programs. A grant from the Thomas B. Fordham Foundation made it possible for us to visit California, Florida, Maryland, Ohio, and Texas, as well as the National Center for Developmental Education, located at Appalachian State University in Boone, North Carolina. We were also able to contact all 50 states to request any data available on the cost of remedial programs, as well as information on the age of students enrolled in such programs. This paper presents our findings.

In the fall of 1995, nearly three out of ten first-time freshmen enrolled in at least one remedial course.

The additional financial data we have gathered do not alter the earlier estimate that remedial education costs the nation's public colleges and universities about \$1 billion annually—roughly one percent of the institution's current fund revenues of \$115 billion. It is important to note that this figure includes not only the costs associated with remediation for traditional age freshmen, but also costs associated with remedial education for returning adult students. Although widely varying age data make it difficult to determine what percentage of the total remediation costs should be ascribed to returning adult students, certainly a significant part of the total should be attributed to them. On the other hand, it should also be noted that only one aspect of total economic costs of remediation are included in this figure—the part reported by public institutions of higher education. Total economic costs would also include costs borne by students through foregone earnings and diminished labor productivity and by society as a whole through a failure to develop fully the nation's human capital. In that sense, much of remediation is a second effort to repair earlier damage or failure to learn, which results in lower national wealth and higher transfer payments to those with low lifetime incomes. Costs incurred by private colleges and universities are also not included, for there is no way to estimate the amount of those outlays.

Terminology: Remedial v. Developmental

What's in a word? It depends on whom you ask. One issue we continually encountered was whether we were studying "remedial" or "developmental" education. In fact, we were not entirely convinced that they were not one and the same. In Florida, for example, what used to be known as "remedial education" had been renamed "developmental education," and more recently changed again, this time to "college prep."

Although remediation is college preparation in one sense, we were nevertheless surprised that the term "college preparatory," as traditionally understood, has been turned on its head. What is clear is that, over time, the word "remedial" has largely been replaced with "developmental," especially in the relevant education community.

To the extent that a given student may not have had certain material in high school, it is true that he or she may not actually be engaging in remediation—in re-learning something for the second (or more) time. Although some argue that the change from "remediation" to "developmental education" is merely a euphemistic one, the case can be made that the two terms do mean different things. As understood by the developmental education community, remediation means to re-teach, with no reference to other concerns, such as pedagogy. Developmental education, on the other hand, means that additional assump-

tions have been made in terms of how to teach students—or why they need such teaching. Unlike remediation, developmental education involves student development theory. Supposedly, developmental courses are more likely than remedial courses to emphasize several pedagogical specifics including: student work groups; greater student verbal participation; greater student choice; more student responsibility; and more visual aids. Actually,

many of these methodologies are also found in honors courses.⁴ In sum, to developmental educators, much of what separates remedial from developmental education is pedagogy; only some of the difference is content-based.

Although we appreciate the foregoing distinction, we nevertheless believe that, if not euphemistic, the terminology is at least somewhat obfuscating. By necessity, remedial education also concerns itself with pedagogy, student learning styles, and student development theory. Teachers, after all, don't just conduct class without giving any thought to these concerns. The following definitions perhaps better encapsulate the spirit of the two words. In *Accent on Learning*, Patricia Cross argues that:

If the purpose of the program is to overcome academic deficiencies, I would term the program remedial, in the standard dictionary sense in which remediation is concerned with correcting weaknesses....

We estimate that remedial education costs the nation's public colleges and universities about \$1 billion annually.

If, however, the purpose of the program is to develop the diverse talents of the students, whether academic or not, I would term the program developmental....⁵

With the foregoing ideas in mind, we have intentionally chosen to refer to the compensatory education described in this report as remedial rather than developmental, even though "developmental education" is the term more often used by those in the field.

History

Remediation is arguably as old as American higher education. As early as the 1630s, Harvard College had to provide tutors in Latin for incoming students. The first remedial education program was offered at the University of Wisconsin in 1849 with remedial courses in reading, writing, and arithmetic. Indeed, "preparatory" departments existed at higher education institutions throughout the nineteenth century. In the twentieth century, junior colleges started to take over remedial education, although many four-year schools kept vestigial programs. These programs expanded with the burgeoning student populations that resulted from the "open door" provided by the Higher Education Act of 1965. The percentage of institutions offering developmental education increased steadily during the 1970s and legislatively mandated assessment testing began in the 1980s. At that time, most states found

that about 30% of their entering students were lacking in at least one basic skill.⁶ Although many states allow remedial work to count towards institutional credit, largely for financial aid and funding reasons, today the great majority of states do not allow remedial course work to count towards degree or graduation credit, a change from the past.

Fifty-State Survey

Overall, the responses we received to our requests for data and information from the states fell generally into four categories: enthusiastic, matter-of-fact, wary, and outright hostile. There were also many states that had essentially no information that was useful to us, either because it was too general, too out of date, or simply unavailable because the state does not collect information on remediation. Indeed, as will be discussed below, some states deny that "remediation" even exists in their institutions.

At the outset we will make several general observations. Almost everyone we spoke to felt that there is a dearth of information on remedial education, especially when attempting to identify specific cost and age information. Moreover, most people we spoke with were quite interested in our "agenda." This was particularly the case with the remedial/developmental education "true believers" who have felt under siege lately by legislators and others critical of the state of American higher education generally, and remedial education specifically.

Others we spoke to took more of a matter-of-fact position: here are the numbers; let them speak for themselves.

Although most states have at least some cost and age information, the great majority had only summary numbers available; that is, cost figures usually encompassed both traditional age and adult students. It was rare to find states that could provide cost data for only traditional age college freshmen, i.e. those between 18

and 19 years old. *Thus, it is important to remember that most of the state cost figures that follow this discussion combine costs for both traditional age and returning adult students.*

Even when a break-out was available, caveats were usually offered that some of the money probably did not actually go to remediation, but instead to assessment and/or testing, and also that some of the money included in the figures would have been spent regardless of whether remediation was conducted: "the grass on campus would still have to be cut."

Finally, most people we spoke with said that legislators understand that some remedial costs are for returning adult students—a cost that states are apparently willing to bear and which is not conflated by legislators with remedial costs for traditional-age first-time college freshmen. These latter costs raise the ire of legislators and others who believe that

such costs represent paying for the same instruction twice, an issue that we will address later in this report.

Although we were able to gather a considerable amount of data, a national picture based on a state-by-state analysis is difficult to assemble given the variability and non-comparable nature of much of the information available to us. Remedial education, for example, is "not allowed" in Arizona. Likewise, Con-

Almost everyone we spoke to felt that there is a dearth of information on remedial education, especially when attempting to identify specific cost and age information.

necticut denies that any remediation is officially conducted in the state. Other states collect some data, but it was often so general, or out of date, as to not be of much use. The most recent data for Indiana, for example, are from 1988. The following is a representative list of some of the more reliable cost information that we were able to collect.⁷

Fifty State Survey: Costs

The total cost for remedial courses for the 1995-96 academic year in **Alabama** was \$15,896,383. Of this, Alabama estimates that adult students (which they define as age 25 and over) accounted for \$6,550,896, leaving \$9,345,487 for the under 25 cohort.

In **California**, Basic Skills (remediation) and English as a second language (ESL) instruction represents approximately 13% of community college enrollments, and about 11% of expenditures. For 1993-94, the total cost of all basic skills instruction, including ESL and numerous non-credit

courses at the community colleges, was almost \$300 million.⁸ California State University System staff estimate that remedial education cost \$9.3 million in 1995, which constitutes less than one percent of the CSU General Fund budget, and less than two percent of instructional time.⁹ The University of California does not officially report any remedial instruction. Some UC campuses have farmed out their remedial courses to community colleges. Others, such as Berkeley, have folded their remedial classes into regular courses.¹⁰

Of the total 1995-96 **Florida** community college and public university budget of \$2.5 billion, \$57.5 million, or 2.3%, was for remedial expenditures.¹¹

Remedial college education costs **Georgia** more than \$20 million a year.¹²

According to University of **Hawaii** studies, many students were not completing their remedial courses. These findings, and a state budget crunch, led the system to abandon remedial education, which had accounted for approximately \$1.5 million of a \$70 million budget. Today, Hawaii has a successful community service program and an adult education program in place of remedial education.

Remediation in **Illinois**, defined as direct faculty salary costs, cost \$26,867,516 in FY 1996. This represents 1.1% of the university direct faculty salary budget, and 6.5% of the community college direct faculty sal-

ary budget. The percentages were 0.6% and 5.1%, respectively, in 1980.

In **Kentucky**, the state cost for remediation at community colleges in 1994-95 was \$1.4 million. The cost at the universities was reported to be zero, since it was "covered by tuition."

Total expenditures for remediation in **Maryland** were \$17,616,200 in 1995 compared to \$7,297,600 in 1984. These amounts represented 1.2% of total expenditures in 1995 and 1.1% of total expenditures in 1984.

Due to restructuring, **New Jersey** no longer has a department of higher education and we were thus cautioned to take any cost figures with a grain of salt. Nevertheless, Robert Scott, President of Ramapo State College of New Jersey, advises that "remedial education in New Jersey costs about \$50 million out of about \$1 billion."

The instructional cost for remedial/developmental courses at state-operated colleges in **New York** in 1996 was about \$4.0 million. The total cost, including a proration of all other costs, was about \$19.4 million. The State's share of these costs was 54.9% or \$2.2 million for instructional costs and \$10.6 million for total costs respectively. For community colleges, the instructional cost for remedial/developmental courses was about \$32.7 million. The total cost was about \$71.3 million. The State's share of these costs was 30.52% or \$10.0 million for instructional costs and \$21.7 million for total costs.¹³

In 1995, the total subsidy for

remediation in **Ohio** was \$32 million; \$19 million for adult learners and \$13 million for traditional age first-time freshmen.

For the 1998-99 biennium, \$172 million has been allocated in **Texas** for remediation. This amount represents about 2.8% of the lower-division instructional costs in universities and 18.8% of academic instructional costs in community colleges. For comparison, Texas remediation expenditures were \$38.6 million in the 1988-89 biennium.¹⁴

Remediation accounts for \$24-26 million of the \$1.5 billion budget in **Virginia**.

Washington's public colleges and universities spent nearly \$30 million on remedial education during 1995-96, representing about 7% of their total expenditures that year. Of the remedial expenditures, 97% were at the community and technical colleges. These institutions spent \$29,015,460, while the public baccalaureates spent \$870,635. Remedial education costs constitute a small portion of the total higher education budget: 6% at the community and technical colleges and 1% at the baccalaureate institutions.

The cost of developmental programs in **Wyoming** was estimated at 8.8%, or \$7,425,925, of the \$84,385,513 community college system 1995-96 budget.

According to Hunter Boylan, director of the National Center for Developmental Education (NCDE), and a long-time scholar in this field, whether the total national cost is \$500 million

or \$2 billion, remedial education (again, for both traditional age and returning adult students) still accounts for less than two percent, and perhaps less than one percent, of the annual national higher education budget. Equally important, notes Boylan, is that no one argues that the cost is anywhere in the range of \$5 to \$10 billion.

With these percentages in mind, Boylan believes that legislators and others overreact to the cost of remediation. Indeed, Boylan argues that states are not necessarily paying twice for instruction by funding remedial education. Why?

Although 63% of high school students went on to college last year, only 43% took the full college preparatory course of study while in high school. In short, many college students have not previously had the material that they are studying in remedial courses.

Fifty State Survey: Enrollments

On a state-by-state basis, changes in enrollment in remedial courses do not show a monolithic trend, although the overall trendline is probably modestly up.

First-time freshmen enrollment in remedial English in **Arkansas** was 35.4% in 1993 and 33.4% in 1996. The math enrollment rates were 51.6% in 1993 and 51.3% in 1996. Likewise, the reading enrollment rates were 30.6% in 1993 and 28.7% in 1996.

In **California**, the percentage of Cal State freshmen failing the English test rose from 38% in 1989 to 43%

in 1996. The percent failing the math test, which had intermediate algebra added to it in 1992, rose from 23% in 1989 to 53% in 1996.

Of all 1995 high school graduates who were first-time college freshmen at **Georgia** system institutions in the fall of 1995, 26.4% fell below system minimums, and 39.1% were required to take learning support courses because they fell below system and/or institutional minimums.

Illinois has found that less than one-third of entering freshmen who took a remedial/developmental class in 1992-93 were recent high school graduates, defined as 19 years old or younger; 46% were at least 23 years old. According to Illinois, "these data contradict the common perception that the majority of students who take remedial/developmental sources in college are recent high school graduates."

In **Kentucky**, 47.5% of traditional age first-time college freshmen took at least one remedial course in 1994-95.

In Fall 1996, 49% of first-time freshmen in **Louisiana** were enrolled in developmental education courses.

In **Maryland**, more than three-fourths of remedial students in community colleges are 20 or older; however, nearly 60% of all new high school graduates who enter a two-year institution in Maryland require remediation.

A recently completed study in **Michigan** found that the state's colleges "offer developmental education services to a larger percent of the stu-

dent population than they did in 1990, with a focus on basic skills, study skills, and critical thinking/reasoning skills."

According to Robert Scott, President of Ramapo State College of **New Jersey**: "The three populations taking [remedial education] are suburban students of traditional age who have not been required to write and who dislike math; inner-city students of traditional age who enter through the State's Opportunity Program because they do not meet admissions standards; and adults who are returning to complete an interrupted college career or who are starting late. This last group needs remedial [education] because of graduation requirements in math and for writing. There are many adult students in New Jersey higher education."

In **New York** in 1992-93, 6.4% of all course activity at all institutions in the state was either remedial or developmental. Of full-time freshmen, 36.4% were in remediation in 1994-95.

Of traditional age freshmen in **Ohio** public colleges, 27% are enrolled in remedial courses.

Of all **Oklahoma** State System first-time freshmen, 40% enrolled in at least one remedial course in the Fall of 1995, an increase of four percentage points since the Fall of 1994. Of this group, 54% took remedial math, 25% took English, 15% took reading, and 6% took science.

In **Rhode Island**, 2.5% of the total course registrations system-wide in 1996 were for remedial courses. The 1991 number was 2.4%.

Between the 1988-89 biennium and the 1998-99 biennium, remedial enrollments in **Texas** increased by 44% in the universities and 307% in the community colleges. Some of this increase is attributable to mandatory statewide testing not fully implemented until after 1988-89. In the four-year institutions, 8% of the remedial students are over age 25, while 33% of the remedial students in community colleges are over 25.

The percentage of previous year high school graduates entering public institutions as remedial students in **South Dakota** has declined: 8.1% in 1994 versus 6.3% in 1996.

In **Virginia**, 24% of in-state freshmen need remediation: 50% of community college students and 10% of four-year college and university students.

Approximately 16% of the students at **Washington's** public colleges and universities, combined, received some remedial instruction. About 96% of these underprepared students were at a community or technical college. Twenty percent of the students at community and technical colleges were enrolled in at least one remedial course. Of these students, 58% were over age 21 and had been out of high school for more than three years. Approximately 11% of the freshmen at the public baccalaureates took remedial coursework.

In Fall 1991, 43% of all first-time, full-time freshmen in **West Virginia** enrolled in one or more developmental courses. By Fall 1995, the number had risen to 53%. The per-

centage of students 25 years old and older who are enrolled in one or more developmental courses rose from 54% in 1991 to 71% in 1995.

Between Fall 1990 and Fall 1995, the percentage of new freshmen in the University of **Wisconsin** system needing English remediation fell from 10.1 to 6.8 percent. During the same period, the percentage needing mathematics remediation fell from 20.6 to 12.7 percent.

Of the students enrolled in developmental courses in **Wyoming**, 48.4% were age 21 and under (of those, 33.1% were 19 or 20), and 36.4% were age 25 and older.

More will be said about age and remedial enrollments in the discussion of the NCDE Survey below.

Site Visits

Fortunately, several of the states that we were most interested in visiting were those with the best data and greatest enthusiasm for helping us with this study. Not surprisingly, those states with large minority and non-native speaking populations have conducted the most research on the issue of remediation. These states, such as California, Florida, and Texas were also places we were interested in treating as case studies. Other states such as Maryland and Ohio have conducted considerable research and offered valuable insights. We also sat in on remedial classes at Piedmont Valley Community College in Charlottesville, Virginia to get a first-hand sense of what these courses are like.

California

We visited with staff in the California Community Colleges Chancellor's Office, Sacramento, CA.

The California Community Colleges report, as noted earlier, nearly \$300 million in outlays for remedial education, by far the largest dollar amount reported by any system in any state in this country. The figure in question is presented in a memorandum distributed internally in December 1994, and is based on 1993-94 Full Time Enrollment (FTE) counts and dollar reimbursements. Specifically, the system reported 79,529

Nondegree Credit FTE counts, and 34,468 Noncredit FTE counts, for a total of roughly 114,000 FTE in "precollegiate instruction." The Nondegree credit FTE are reimbursed by the state at a rate of \$2,950 per FTE, for a total of \$235 million, while the Noncredit FTE were reimbursed at the rate of \$1,680 per FTE, for a total of \$58 million, bringing the grand total to \$293 million.

To clarify what is included in each of these categories, Nondegree Credit instruction is for the purpose of preparing students to succeed in college-level work, is limited to a total of 30 semester units per student, and is fully supported by the state. This category corresponds most closely to what we mean by remedial education. Noncredit instruction is for the purpose of preparing students to survive and participate fully as citizens, and

includes ESL, vocational training, citizenship skills, health and safety instruction, and the like, and is also fully supported by the state. This category of work is not what is meant by remedial education in this study, or in the surveys conducted by the National Center for Education Statistics. As a consequence, the \$58 million noted above should not be counted in any national estimate of the cost of remedial education.

In our discussion in California, it was abundantly clear that remedial education is an accepted and important part of the mission of the Califor-

Remedial education is an accepted and important part of the mission of the California community colleges, for which they make no apology.

nia community colleges, for which they make no apology. (Indeed, this aspect of their mission is enshrined in the California Education Code.) The term that the community colleges prefer to use for remedial coursework is "basic skills," which is what one would find in most of their reports on this topic. The faculty who teach such courses are a mix of full-time and part-time

teachers. A Master's Degree is required but no special academic preparation is required by the state to teach in remedial programs.

The major controversy currently underway in the state in this arena is the desire of the California State University system to reduce, or eliminate, any remedial courses by 2007 (an original plan to end remediation seems now to have been compromised to a goal of reducing the need to 10% of the entering class by 2007). From

the community college standpoint, this proposal would mean that the two-year colleges would be expected to pick up many of those students who currently receive remediation in the CSU system, and this shift is resisted by the two-year colleges for a variety of reasons, chief among them being the general crush of increased enrollments projected for the state, without adequate funding.

Given the enormous diversity within the California population, coupled with the wide range of educational needs, remedial programs will continue to be a mainstay of the two-year campuses for the foreseeable future. Improving K-12 education may reduce these pressures somewhat, but the one study we were given indicated that about one-half of all remedial courses in California are taken by students 25 years of age or older. As in so many areas, California is not necessarily typical of the nation, and thus it would appear to be at one extreme in the need for remediation, and in the diversity of the population seeking such instruction. Some UC campuses have farmed out their remedial courses to community colleges. Others, such as Berkeley, have successfully folded their remedial classes into regular courses.¹⁵

Florida

We visited with the Postsecondary Education Planning Commission and with the Florida Community College System in Tallahassee.

The state of Florida has extremely good data on remedial educa-

tion, which is conducted exclusively within the community college system.¹⁶ Since 1985, the policy has been for the four-year institutions to contract with two-year colleges to provide whatever remedial instruction the university students need. The community college system has excellent information on costs, on completion rates, on transfer rates for students who took remedial courses, and on the demographics of remedial students.

In 1995-96, out of 237,055 FTEs enrolled in community colleges, 14,487 FTEs were enrolled in remedial courses, or 6.1%. The total budget for the two-year system in that year was \$918 million, of which \$57.4 million went for remedial instruction (called "preparatory" in Florida), or 6.2% of total community college outlays. The total community college and public university budget in Florida in that year was \$2.5 billion, so the \$57.4 million spent on remediation amounted to 2.3% of total outlays.

This figure is actually an overestimate of the cost to the taxpayer, however, because Florida includes tuition and fees in the total cost computations. Of the \$57.4 million spent on remediation, \$22.5 million (39 percent) was paid by students as tuition. Actual taxpayer outlays would therefore be \$34.9 million for Florida in 1995-96.

In Fall 1995, women made up 61% and men 39% of enrollments in the preparatory programs. Blacks accounted for 20.4%; Hispanics, 19.5%; and whites, 56.1% of enrollments in remedial courses. 51.6% were 22

years of age or older, while 35.6% were 26 years of age or older. As for completion rates, based on 1993-94 entering students, 42% completed the mathematics remedial course, 60% completed the writing course, and 63% completed the reading course by 1995-96. Data also indicated that 64% of those who complete remedial courses either have graduated four years later or are still enrolled. These are the most complete data we found, and they clearly indicate that any further study of this topic should certainly include Florida as a major point of departure.

It was the strong belief of those with whom we talked that mathematics is a key subject in determining who is placed in remediation, and how well they would subsequently do. Until recently, Florida has not required even Algebra I for high school completion, but that requirement is now being introduced, as is an overall G.P.A. of 2.0 for graduation, up from 1.5. If these new requirements stick (they are controversial) the hope is that more students will be prepared properly for college work. Moreover, performance budgeting is being introduced for the high schools in a way that will penalize them for students who require subsequent remediation: they will be denied a performance increment in their budgets. Florida seems to be tackling this issue in a concrete fashion, and it would be valuable to monitor the progress that this state makes in reducing the need for remedial education, especially compared to Ohio which takes a

different approach to high school budgeting.

Maryland

We visited top officials of the Maryland Higher Education Commission in Annapolis.

The Higher Education Commission published an extensive report on remedial education in May 1996, a report that, along with data from Texas, formed the basis of the cost estimate included in the Brookings paper, cited earlier. Whereas Texas reported state appropriations for remedial instruction, Maryland directly surveyed all public campuses, requesting expenditure data. Their finding was that, in FY 1995, Maryland public institutions spent \$17.6 million on remediation, with \$16.1 million (91% of the total) spent in community colleges. The four historically black public colleges in Maryland accounted for about half of the expenditure on remediation in the university sector.

Here it is worth noting that, as in Florida, the figures cited are expenditures, not appropriations. Whereas the source of appropriations is unambiguously the state, expenditures include all relevant revenue sources, the most important (in addition to state funds) being tuition. We do not always know for certain in all cases when states report cost data whether they are reporting appropriations or expenditures, which adds another element of uncertainty to the national cost calculation. When total expenditure data are reported regardless of

revenue source, then the state share is being overestimated to the extent of the tuition charged to students in remedial courses; when appropriation data are cited, then the out of pocket costs of students and families are not being counted. These are two different measures of cost, and ideally, one would want all the figures on both bases, but what one gets is a mix of the two. Were the National Center for Education Statistics to decide to survey remedial costs, this would be one elemental confusion to avoid.

The release of the Maryland report prompted numerous inquiries about the age of students requiring remediation, a topic not included in the survey. The Commission, therefore, did a follow-up on that question, dividing recent graduates and "older" students at age 20 (which seems low to us). In any event, they found that over 76% of students in remedial courses were 20 or older. This example points to both the need for some national criterion for breaking the distribution between recent graduates and older students, and the desirability of determining how the distribution of remedial work sorts out by age. The policy implications are significant, because the older the student, the less meaningful it is to connect the academic deficiency with the K-12 schools.

Maryland has adopted a K-16 approach to educational analysis, and is encouraging its colleges and universities to work more closely with the K-

12 system to improve students' transition experiences. A recent state report found that all sectors of higher education are actively involved in joint ventures with the K-12 system. One community college and one public 4-year institution in the state have contracted with the proprietary Sylvan Learning Systems to offer a series of remedial courses in mathematics.¹⁷

Ohio

Our visits were to the Ohio Board of Regents in Columbus and Sinclair Community College in Dayton.

In June 1997 the Ohio Secondary and Higher Education Remediation Advisory Commission issued a report entitled, *Improving College Preparation in Ohio: A Total System Approach*. One of the proposed approaches, if fully implemented:

Will reduce developmental enrollments among traditional age freshmen by at least 15 percent within five years and will result in further reductions after five years. Most importantly, the reductions will be achieved not by drastically restricting college enrollment, but rather by helping students accelerate and enhance their progress toward college readiness during the high school years.

This total system approach is based on five recommendations: to communicate college-level expectations, to develop a continuum of early assessment and intervention, to create an Ohio Learning

The older the student, the less meaningful it is to connect the academic deficiency with the local K-12 schools.

extension, to target existing resources, and to create a common agenda.

The plan, above all, calls for collaboration between the higher education and K-12 communities....

The Commission proposes that developmental enrollment levels—although important from a cost perspective—are not the problem. They are a symptom. The fundamental problem developmental enrollment levels reveal is this: Ohio's current educational system identifies and addresses a lack of college readiness only after students have graduated from high school and entered college....

Ohio needs to view college preparation as a day-to-day process that begins early in a child's life and intensifies when a student enters high school.¹⁸

In Fall 1995, 27% of Ohio's traditional age freshmen needed remediation. These students account for 43%, or about \$13 million, of the \$32 million that was needed to subsidize all developmental enrollments in the state's postsecondary education.

One of the most important aspects of the Ohio endeavor is that the plan takes a fiscal incentive, not a punitive, approach to achieving its goals. Ohio, for example, does not favor performance budgeting as is done in Florida. Arguably, one of the major problems facing attempts to reduce the need for remediation is that many proposals rely on negative motivations. Perhaps most noticeable is the call by some legislators (as in Florida), for traditional age freshman remedia-

tion to be paid for by the high school districts from which these students graduated.

Ohio has adopted a different approach. The Advisory Commission has proposed and the state is considering adopting the following funding concepts "to provide the opportunity for higher education to shift the emphasis away from developmental courses and toward activities to improve college readiness, and for high schools to be partners in this endeavor:"

Enable each institution to reallocate a percentage of its portion of the instructional subsidy attributable to enrollments in developmental courses to be targeted for collaborative programs that enhance teaching and learning for students in secondary and higher education. As a result, institutions that reduce developmental enrollments will not be penalized by a reduction in their instructional subsidy.

Provide each institution with a state match [from the Board of Regents] that equals the amount reallocated to college readiness activities....

Provide funding from the Ohio Department of Education to schools that participate with colleges and universities in collaborative projects to improve the college readiness of Ohio high school graduates. This funding should equal the reallocation of developmental subsidy and the state match.¹⁹

This component of the plan—its

positive, rather than negative, funding induce ment—make it one of the most compelling approaches to reducing the need for traditional age college freshmen remediation that we found, especially because both secondary and post-secondary institutions stand to realize significant funding enhance ments by implementing this approach.

One of the most significant developments of late is the creation of a joint council comprised of the State Superintendent of Public Instruction, the Chancellor of the Ohio Board of Regents, three members of the State Board of Education, and three members of the Regents. The council is meant to cement the K-16 relationship in Ohio.

Discussions with developmental faculty at Sinclair Community College reinforced our perception. They believe that Ohio's adoption of the *Total Approach* plan will force a dialogue between secondary and post-secondary groups; indeed that this funding arrangement may be mandated by the legislature means that the plan "will definitely get different constituents' attention." City and county schools are now brainstorming about collaboration with postsecondary institutions. High school counselors have started visiting Sinclair and both curricular and advising links are being pursued. So far these arrangements have been on an ad hoc basis, but many hope that a more systematic approach will be devised.

Ohio's recognition of the important role played by reimbursement, for good or ill, is also supported by Hunter

Boylan, director of the National Center for Developmental Education, who argues that some "punitive" remediation reimbursement structures mitigate against improvement, while others, such as the one beginning in Ohio, potentially offer incentives for change.

Texas

We visited the Texas Higher Education Coordinating Board in Austin.

Established in 1987, the Texas Academic Skills Program (TASP) was originally designed to serve as diagnostic tool, placement device, and standard for skills that an entering freshman should possess. Originally required of undergraduates in Texas public postsecondary institutions, the test must now be taken before commencing collegiate work. A student must pass each of the three sections (math, reading, and writing) and may take the test repeatedly until every section is passed. Any student who does not pass a section is required to enter and remain in appropriate remediation until all sections of the test have been passed. Remediation is left to each public institution to organize. Community colleges see remediation as an integral part of their mission, while certain state comprehensive universities offer their own courses or arrangements. Some research universities require students to attend remedial courses at local community colleges.

Although there were originally few TASP exemptions available for Texas citizens wishing to attend Texas

public postsecondary institutions, significant exemptions (based on SAT or ACT score, students over the age of fifty) were enacted by the legislature in 1995, and again in 1997. As a result, only the most academically challenged students now take TASP and data, particularly longitudinal data, on the percentage of students who fail various sections are skewed by this fact. A trend in the program over the last few legislative sessions has been to provide students with multiple ways to meet the TASP requirement and to provide institutions with more flexibility in testing and developmental education decisions.

As with virtually all states, the remedial problem originates in the K-12 arena. Texas higher education officials are concerned with general teacher education and preparation programs, such as "creative spelling" v. "mis-spelling." Proficiency is also a concern. To graduate from high school in Texas, for example, one must be able to read at the ninth grade level.²⁰ The Texas Education Agency, which is responsible for K-12, has nevertheless stiffened high school graduation requirements and identified a core curriculum for the public high schools that includes four years of English, three years of history and government, and three years of a foreign language. Certain community colleges and smaller public colleges are "linking" with local high schools for remediation and preparation for TASP. While these linkages are

working in some cases, it has also sometimes created problems in regard to state funding because a teacher is ostensibly being paid twice for one course; once by the high school and once by the community college.

Finally, it is worth comparing the growth rate of remedial education with the growth rate of the public higher education budget to see if remedial education funding is growing at a rate beyond the rest of the budget. General revenue appropriations for remedial instruction in Texas increased from \$38.6 million in the 1988-89 biennium to \$172 million in the 1998-99 biennium. This consti-

tutes a rise of approximately 346 percent. During that period, general revenue appropriations for higher education rose about 72%. It should be noted that a considerable amount of "remedial" money in Texas went to administering TASP and academic advising, so it is

perhaps incorrect to assign the full amount solely to remedial instruction.²¹ The remedial figures also include funding for ESL instruction. Finally, the biennium dollar amounts represent funding for two years; the annual remediation outlay in Texas over the next year will be approximately \$86 million.

National Center for Developmental Education (NCDE)

We visited with Hunter Boylan, Director, and his colleagues, in Boone, NC.

As with virtually all states, the remedial problem originates in the K-12 arena.

Founded in 1976 with a grant from the Kellogg Foundation, The National Center for Developmental Education (NCDE) is located at Appalachian State University. In addition to providing instruction and training, conducting research, and publishing *Research in Developmental Education* and the *Journal of Developmental Education*, the official journal of the National Association for Developmental Education (NADE), the National Center also maintains a large materials collection that encompasses many resources on developmental education. Our meeting with NCDE Director Hunter R. Boylan and his colleagues was a logical capstone visit for our study. Appalachian State was the first institution to offer graduate training in developmental education, offering both Master's and Educational Specialist degrees. Today, National-Louis University in Chicago offers advanced degrees in developmental education while Grambling State University in Louisiana offers the nation's only Ed.D. specifically devoted to developmental education.

NCDE National Survey: Age Distribution Findings

As noted above, the data on age distribution vary widely from state to state. The best national figures we encountered were supplied by the NCDE. Indeed, although state age data varied, the data from the NCDE National Study of Developmental Education were unequivocal: the majority of remedial students are young. The study of randomly selected stu-

dents from two year technical colleges, community colleges, four year public, four year private, and research universities found that 50.8% of remedial students were age 18 or younger; 70.9% were age 19 or younger; and 76.8% were age 20 or younger. Overall, approximately 80% were age 21 or under while 90% were age 27 or younger.²² These data differ significantly from those of several states, where the number of students age 22 or older was in the range of 50% or more.

Why the discrepancy? There are some possible explanations. One—that the national survey data are now eight years old whereas state data may be more recent—is conceivable but not very likely. A more plausible explanation is that there has been a strong trend over the past five years toward mandatory placement in remedial classes. Generally speaking, many states did not formerly require remediation for students in vocational programs, which often drew most of the older returning adult students. Today, however, more students fail to meet certain academic standards, regardless of the applicability of those standards to particular vocational programs. As a result, remediation is capturing older students who used to be exempt from remedial requirements. Of course, a further possible explanation is that different data gathering tools are used—resulting in different demographic data. The NCDE national study data were taken directly from registration records. State data sources, however, vary

widely. Clearly, one finding from our study is that little agreement exists nationally on the percentage of older students enrolled in remedial courses.

Nature of Remedial Courses

Hunter Boylan argues that, while there is variation on a case by case basis, generalizations can be made about the remedial courses most often offered around the country. Writing courses are fairly uniform and often fairly close to a standard collegiate English 101 course. Our observations at Piedmont Virginia Community College (PVCC) in Charlottesville, VA accord with Boylan's assessment. Indeed, we were pleasantly surprised by the level of content we saw in the intermediate writing course during our visit to Piedmont. Remedial reading courses, argues Boylan, are more variable in terms of level, ranging from just below what one would expect of a college freshmen all the way down to courses that are perhaps better described as being geared towards literacy. Our observations at PVCC, based on student presentations, likewise found that the students were markedly unprepared for freshman English. Finally, Boylan argues that remedial mathematics is uniformly on a low level—not at all close to the level expected in a regular collegiate Math 101 course. Concurrent with this view, the math class we observed at PVCC was shockingly remedial with the instructor having to back up all the way to a review of the rules

of addition and subtraction of positive and negative integers.

Remedial Education Faculty

Many of the professionals we met who are involved with remedial education are "true believers," who often bring an almost messianic quality to their work. Hunter Boylan notes, for example, that although fully 90% of blacks that enter community college will never get their associates degree, 10% will—and both the developmental faculty and the community colleges will argue the importance of that 10%. Also, they will argue that the high number of students who begin but do not finish remediation, much less get a

Many of the professionals involved with remedial education are "true believers."

degree, can be misinterpreted. A significant number of these students are simply contemplating further education in terms of job skills, which once procured, may, for good or ill, override the perceived need for further education at that

time, or a formal credential. Another reason given to preserve remedial education is that it represents one of the few possible ways for students to get ahead as today's economy no longer provides many places in the middle class for young people who do not go to college.

Although belief in the value of their work is necessary on the part of developmental educators, it is also insufficient. Most faculty who teach remedial courses have disciplinary academic backgrounds; they do not have "developmental studies" backgrounds. Whether this is good or bad depends

on whom you ask. Boylan argues that "many developmental education teachers are not qualified to teach in any classroom, particularly in one with underprepared students, because they are often ignorant of any methodology for teaching these students." Nationwide, there are five programs geared to developmental education teaching; however most training is in-service, not preservice. For those already in the field there are also training institutes. Boylan believes that many teachers do not know how to teach remedial courses and that more training is essential to achieve better results.

Boylan argues that, with better assessment, our diagnostic capacity will improve. As these gains are made, the number of students actually enrolled in remedial classes may decline, as there may be better non-course alternatives for some students. Whereas today approximately thirty out of every hundred entering students take at least one remedial course, in the future those thirty students may be divided up with fifteen in remedial classes, eight students in learning labs, and seven in tutoring.

Conclusion

Will thirty percent of entering college students continue to need remediation in the years ahead? Although most educators, legislators,

At a minimum, these findings should focus future discussion on non-financial factors, not confusing the debate with inaccurate claims that the nation, or the state, cannot afford the direct economic costs of providing remedial instruction to those who need it.

and citizens want to see the total number of remedial students decline, it seems likely that there will always be a significant number in this category. Even if most students could succeed in regular college preparatory curricula, there will always be ESL students, special needs students, and returning adults. Of course, the need for remediation is created at the K-12 level. Although better K-12/college coordination has long been prescribed, especially since 1983, when *A Nation At Risk* called for better K-16 articulation, such coordination has not happened, although initiatives such as Ohio's *Total Approach* hold some promise.

It is clear that too many students need remediation. Yet it must be remembered that remedial education is not new, even though it has become a more contentious issue in recent years. Also, it continues to account for a very small percentage of the national higher education budget. This study has uncovered no data that are inconsistent with the co-author's earlier estimate that remediation absorbs about \$1 billion annually in a public higher education budget of \$115 billion, or less than one percent of expenditures. Indeed, it is often one of the cheapest forms of instruction: a teacher (often adjunct faculty), a blackboard, and little else. Finally, it is arguably the lesser of several undesirable outcomes

for these students. Compared to other options such as dead end jobs, unemployment, welfare, or criminal activity, together with the social costs that accompany these paths, remediation is surely a good investment. College preparation can and must be improved, but it seems unlikely that doing away with remediation as a necessary complement to mass higher education would produce any long-term benefit to society.

Given these considerations, it seems clear that remedial education should remain a central function of community colleges. Although some states may successfully conduct remedial education at their four-year institutions—and not without contro-

versy—others will be better served by moving this function entirely to their two-year schools. Indeed, the desire of some states to move remediation from four-year to two-year institutions makes the community college remedial function that much more critical.

The fact that remedial education draws political fire far in excess of any reasonable view of its budgetary costs suggests that other factors are driving the criticism. At a minimum, these findings should focus future discussion on those non-financial factors, not confusing the debate with inaccurate claims that the nation, or the state, cannot afford the direct economic costs of providing remedial instruction to those who need it.

¹ Jeffrey Selingo, "Remedial Courses in CUNY 2-Year Colleges Would Be Privatized Under Giuliani Plan," *The Chronicle of Higher Education*, 2 February 1998.

² David W. Breneman, "Remediation in Higher Education: Its Extent and Cost," in *Brookings Papers on Education Policy 1998* (Washington, DC: The Brookings Institution, 1998), pp. 359-383.

³ *Ibid.*, p. 375.

⁴ Hunter Boylan, Personal Interview, National Center for Developmental Education, Appalachian State University, Boone, NC, 12 January 1998.

⁵ Pat Cross, *Accent on Learning*, (San Francisco: Jossey-Bass, 1976), p. 31.

⁶ Hunter R. Boylan and William G. White Jr., *Educating All the Nation's People: The Historical Roots of Developmental Education*, and Hunter Boylan, Personal Interview, NCDE, 12 January 1998.

⁷ Unless otherwise noted, the following cost and enrollment figures came from phone conversations or material either faxed or mailed to us.

⁸ In considering this figure, it should be noted that California community colleges account for 21 percent of national two-year college enrollments, which suggest (by extrapolation) national outlays in this sector of \$1.5 billion. California may not be representative of the community college sector, however, in that it has higher than average enrollment rates and a higher than average number of immigrants enrolled in remedial courses. See also the site visit discussion of California, where it is suggested that the accurate cost figure for remedial programs is \$235 million, which extrapolates to about \$1.2 billion nationally.

⁹ The \$9.3 million figure for CSU is the sum of reports from the 19 campuses, and an official in the Chancellor's office reported in a phone conversation that he thought the number was an underestimate, but he had no way of knowing by how much.

¹⁰ Alex Schwartz, UC-Berkeley, phone conversation, 10 June 1998.

¹¹ See discussion of the Florida cost figures in the Florida site visit section. The comparable figure is actually \$34.9 million, excluding tuition charges.

¹² James Salzer, "Preparing Students not Ready for Higher Education," *Savannah Morning News*, 6 October 1997, C1.

¹³ "Summary Trends and Cost Measures for Remedial and Developmental Instruction," State University of New York, 7 March 1996, p. 2. The report adds: "It should be noted with respect to the 'total' cost figures that they include expenditures that would be present whether or not any remedial instruction was offered. For example, the total cost includes maintenance and operation of the physical plant, mowing the grass, plowing the roads, etc. These costs would not change absent remedial instruction. In this sense they are not avoidable costs. They are included here for the sake of a total cost picture, but they do not represent policy alternatives in terms of cost avoidance. From a policy perspective, the cost of remedial and developmental courses is more practically represented by the direct instructional costs."

¹⁴ N.B. Because these are biennial figures, they must be halved for annual figures.

¹⁵ Alex Schwartz, phone conversation, University of California-Berkeley, 1 June 1998.

¹⁶ The one exception mentioned is Florida Agricultural and Mechanical University (FAMU), an historically black university that conducts its own remedial work.

¹⁷ Sylvan was also mentioned in Florida, where that corporation wants to work with students who failed to complete remedial courses in the community colleges, the learning agency of last resort.

¹⁸ *Improving College Preparation in Ohio: A Total System Approach*, Executive Summary, (Columbus: Ohio Board of Regents, 1997), pp. 1 ff.

¹⁹ Ibid., p. 23.

²⁰ Hunter Boylan, Personal Interview, NCDE, 12 January 1998.

²¹ Ibid.

²² Boylan, Bonham, and Bliss, unpublished technical reports, National Study of Developmental Education, National Center for Developmental Education.

Commentaries

Robert M. Costrell¹

Introduction

One third of the nation's freshmen entering public higher education are now under remediation. On average, remedial students enroll in two courses in pre-collegiate English or math. Seventy percent of remedial students attend community colleges, but 30% attend 4-year institutions, including top research-class universities. This disturbing state of affairs is gathering the attention of policy-makers and citizens across the country.²

Indeed, one of the signal contributions of David Breneman's and William Haarlow's paper is to report the array of state policy responses to the remedial problem. Some states have moved remediation from the 4-year campuses to the community colleges, a move recently joined by CUNY, a system with 200,000 students; others are introducing financial incentives (positive and negative) for high schools to improve college preparation; and Hawaii has eliminated its remedial program altogether, in favor of such alternatives as adult education.

The thrust of Breneman's and Haarlow's paper, however, is that remedial education is a bargain. Reiterating the conclusion of Breneman's earlier paper,³ the authors report the cost of remediation to be a "very small percentage of the higher education budget." Since a third of our entering freshmen are being remediated for only about 1% of the budget, it is argued, these programs are a small price to pay for providing a second chance at learning pre-collegiate material.

This argument, I believe, proves too much. If the 1% cost figure is reassuringly low, then presumably one should not be terribly disturbed if, by extrapolation, 100% of the nation's entering students were remediated for a 3% cost. That is, the dimensions of this hypothetical catastrophe would hardly be captured by the remedial cost percentage of higher education as a whole.

I argue in the first section of these comments that it is simply not useful to express remedial costs as a percentage of the higher education budget. Such a figure says nothing at all about whether remediation is cheap or not; all it says is that there are many other things going on in higher education. I think it is far more informative to express remedial costs on a per-student basis, and this can be roughly done with the data in hand.

Moreover, as Breneman and Haarlow rightly suggest, the controversy over remediation is probably less about budgetary costs than about standards. Low admission standards to college generate a host of non-budgetary costs on other students. To the extent that remediation is tied to low admission standards, these external costs must also be considered a cost of remediation, even if we cannot quantify them. In the second section, I present the predictions of economic theory on the effects of low admission standards on students up and down the educational ladder. Among the most striking predictions is that low admission standards will *depress* the college graduation rate among some students who are lulled into a lesser degree of college preparation. This cost—along with the likely effects on high school and college course standards—must be weighed against the primary benefit attributed to the admission of remedial students, namely that some of them will graduate.

There is another important cost of remediation, and that is the cost of mismatching students to institutions. Many of the remedial students at 4-year colleges and research-class universities are admitted under different standards from their classmates. These students often find themselves in over their heads, and some of them clearly would have been better served had they begun their post-secondary education at a community college. That is, special admissions programs, which generate much of the remediation, impose costs of mismatch on some of their intended beneficiaries. In the third section, I illustrate this thesis by drawing on data at the University of Massachusetts.

In my conclusion, I summarize the factors by which remedial costs vary. Finally, I briefly discuss the link between remediation and admission standards, and explain why that link should be tightened.

Budgetary Costs

Consider the two most salient figures in Breneman's and Haarlow's paper—the extent and cost of remediation. The estimated extent of remediation—33% of students entering public higher education—comes from a large-scale national survey, so we can be reasonably confident of its accuracy.⁴ Indeed, other surveys indicate that it underestimates the number of students who *should* be receiving remediation. By contrast, the estimate that remediation costs only 1% of public higher education expenditures is based on very limited data of uncertain quality from two states, so one can be less confident of its accuracy. The 1% figure is almost certainly a lower bound, for a variety of reasons; a more defensible figure could easily be three or more times higher.⁵

There is a more fundamental problem, however, with presenting the remedial cost data as a percentage of total outlays in higher education. Regardless of whether the figure is 1%, 3%, or 5%, this mode of conveying the data is simply not useful for drawing any inference, one way or the other, about whether remediation is cheap.

Consider the jarring contrast between the disturbingly large 33% figure for the extent of remediation among entering freshmen, and the seemingly small cost figure of about 1%. It is easy to see how we get from one to the other. First-time entering

students constitute only 15% of enrollments in public higher education.⁶ Thus, the 33% of them who are remediated comprise only 5% of total enrollments. Each remediated student takes, on average, about 2 remedial courses.⁷ This is about 32% of the average load.⁸ These calculations suggest that perhaps 1.6% of public

higher education's course load is remedial (32% of 5%), roughly consistent with the Maryland figure (on which Breneman's national estimate is based) that remediation constitutes 1.2% of expenditures.

Nothing in these calculations suggests that remedial education is cheap, only that a lot of other things are also going on in higher

education. There are non-remedial freshmen, vocational and technical students, upper-classmen, graduate students, returning students, and students who seem never to leave. And, of course, remedial students also take many non-remedial courses. Moreover, Breneman and Haarlow compare their national estimate of remedial costs, \$1 billion, with a national higher education budget of \$115 billion, which includes a host of non-teaching expenditures on research, public service, university hospitals, etc. None of this sheds much light on whether remedial education is cheap or not.

Policy-makers might find it more useful to know simply how much is spent per student on remediation.

Nothing in these calculations suggests that remedial education is cheap, only that a lot of other things are also going on in higher education.

The Breneman figure of \$1 billion covers remediation for about 546,000 first-time freshmen (of all ages) in public institutions in 1995, plus an unknown number of other students. This implies something less than \$1,800 per remedial student.

From a policy-making viewpoint, costs per student should be compared to the benefits of remediation, or to the cost of alternative methods of providing remediation. For example, a crude start to a cost-benefit analysis might adjust for the probability of successfully completing remedial coursework. The NCES data indicate that, among public 2-year college students, 66-72% of those enrolled in a remedial course successfully complete the course. This suggests that the probability of completing two remedial courses (the average remedial load) might be as low as one half (if the single-course probabilities are independent), and the cost per *successfully* remediated student might then be on the order of \$3,600. This does not include the costs of the non-remedial courses taken by those remedial students who do not succeed in their remediation. If these are included, then the cost of successfully remediating one student might be calculated as high as \$8,000 (the full cost of the unsuccessful student's year in school and the remedial portion of the successful student's year).

These cost figures are meant only to be suggestive. They are not meant to imply that costs outweigh the benefits, since the monetary value

of the benefits are not specified here or in the Breneman and Haarlow paper. Nor are they meant to suggest that the skills in question could necessarily be delivered more efficiently at the high school level, at least under the current structures and incentives in the public high schools. Caroline Hoxby points out, in her comment on Breneman's earlier paper,⁹ that community colleges may well provide this instruction more cheaply and with more success, due to the improved incentives of students to perform, when they are paying tuition, as well as their greater maturity.¹⁰ If the alternative is to hold students back in high school, repeating grades at public cost until they master the material, then it might make more sense to send them to the local community college, or to a private contractor such as Sylvan Learning Systems, or to some other institution affording a second chance.¹¹ One cannot infer the most cost-effective site of remediation from data expressing remedial cost as a percentage of the higher education budget; one must compare per student expenditures, adjusted in some fashion for success rates.

Non-Budgetary Costs: Standards and Effort Incentives

At its core, the controversy over remediation is probably less about budgetary costs than about academic standards, as Breneman and Haarlow rightly suggest at both the beginning and end of their paper. Mayor Giuliani's rationale for moving remedial

education from CUNY's 4-year campuses to its 2-year campuses was quite clearly stated:

By eliminating any meaningful standards of admission and continually defining down standards for continuation, the entire meaning and value of a college education has been put in jeopardy for the many who are ready, willing, and able to meet and exceed higher standards.¹²

Similarly, the Massachusetts Board of Higher Education explained that its recent policy to begin shifting remediation off the 4-year campuses and into the community colleges is part of "the Board's deliberate and coordinated effort to raise admission standards and student performance expectations in Massachusetts public four-year institutions."¹³

The link between admission standards and remediation can be tight or loose. The link is tight when the admissions process includes remedial testing in addition to the usual criteria of high school grades and SATs. The link is almost as tight when the testing is required for marginal applicants only, or for conditional admittees, provided, again, that the testing is done prior to the final admissions decision.¹⁴ The link is looser in the absence of pre-admission testing. I shall return

to this issue in my conclusion.

For the analysis that follows, assume the link is tight. That is, consider remedial policies that take the form of a cutoff score on a pre-admissions test, or of an admissions policy that limits the number of students who can be admitted without demonstrating mastery of "pre-collegiate" skills, or, more generally, of simply giving specified weight to the score on a remedial test used along

with other entrance criteria. (The analysis here is most pertinent to four-year institutions, since community colleges typically require only a high school diploma.) The cost of remediation, then, includes those costs imposed on other students adversely affected by lower admission standards. These costs (or benefits) are not easily quantified, but they are very real and may at least be logically enumerated.¹⁵

Consider first the effect of lower admission standards on the number of college graduates. The hope, of course, is that a lower admission standard will raise the number of graduates, since at least some of the marginal enrollees, who would not otherwise have enrolled, will make it through and graduate. This simple view overstates the benefits to these students, since some of them will be mismatched, as I argue in the next

The well-intentioned policy of improved access to higher education may not result in as large a rise in the number of graduates as was hoped, and could even have the unintended consequence of reducing the number of graduates.

section. Here, however, I focus on the indirect effects of lower standards on other students.

Economic theory suggests another positive effect on graduation rates that is not commonly understood. Lower admission standards will provide a greater incentive for the better students to complete their degree in order to distinguish themselves from the reduced average caliber of their non-graduating classmates.

However, the graduation rate may be expected to fall among some less promising students, i.e., those who would have met a higher admission standard, but with a below-average probability of graduating. A lower admission standard lulls these students into less effort in high school, leading them to rationally defer effort to college. Upon arriving at college, some will follow through on the deferred effort and some will not, depending on whether they find college to be easier or harder than anticipated. Among those who find it harder than expected, there will now be fewer to rise to the challenge: they find themselves unable or unwilling to overcome their poor preparation in order to graduate. Thus, the well-intentioned policy of improved access to higher education may not result in as large a rise in the number of graduates as was hoped, and could even have the unintended consequence of reducing the number of graduates.¹⁶

The costs and benefits of lower admission standards go beyond the relatively simple question of the num-

ber of college graduates. College graduates vary widely in the amount they learn, and this, too, may be affected by lower admission standards. Not only will those whose preparation for college is adversely affected by relaxed admission standards be less likely to graduate, as discussed above; those who do graduate will also be less inclined to take challenging courses and major in demanding subjects.

Similarly, there are adverse effects on some who do not graduate. Some of these students would have worked harder in high school under a higher admission standard, and even though they end up not graduating from college, they would still have benefited from the higher skill level brought to the labor force. So a lower admission standard adversely affects this group of non-graduates as well.

On the other hand, there are students who would be deterred from meeting a high admission standard, but who might well rise to the challenge of a lower one; even if these students do not go on to graduate from college, they would still have acquired more skills than otherwise. This, of course, is not an external effect of lower admission standards, but one of the positive effects on those directly targeted, as has often been argued by proponents of remediation.

All of the foregoing analysis of the effects of relaxed admission standards assumed that the standards for high school graduation remain unaffected. But restrictions on remediation are largely intended to influence high school standards. If high schools

were to find that fewer of their graduates can go on to college, they would certainly be under pressure to raise standards. Would this be a good thing? The answer depends on whether current high school standards are too high or too low, i.e., whether the benefits to those students who would rise to meet higher graduation standards outweigh the losses to those who would be deterred. It should be stressed here that this indirect benefit of raising college admission standards is to improve the skills of *non-college-bound* high school graduates, a matter of some importance in an economy where the high school diploma is of declining value. When it is argued that remediation is an unfortunate but unavoidable response to K-12 failures, it is implicitly assumed that the road from K-12 failures to college remediation is a one-way street. If causation runs both ways, then one of the costs of unrestricted remediation is the acquiescence in and inadvertent encouragement of low high school standards.

Another hidden cost is on college standards themselves. The presence of large numbers of remedial students inevitably creates pressures to reduce standards in the non-remedial classes in which they enroll. When faculty face a wider variation in preparation of those in the same class, this makes it difficult to maintain the standards that would best serve the

middle and top students. Some faculty will resist the pressure to relax standards, but others will not. This can be exacerbated when resources are allocated among departments in part on the basis of enrollments. Faculty are then under heightened pressure to adjust standards to the lower average quality of students admitted, in order to maintain the department's enrollments and its claim on university resources.¹⁷

The effect of lower admission standards is to help the marginal college admittees at the expense of both the students above and the students below them on the educational ladder.

The problem can be exacerbated by administration, which often has little understanding of the difficulties its admission policies impose on faculty and students.¹⁸ Moreover, administration is judged externally by the graduation rate, more so than by the amount that graduates have learned, if for no other reason than the graduation

rate is more easily monitored. This leads to a host of pressures on the administrative units formed to advocate for "at risk" students. In practice, such units often have few alternatives but to find less demanding courses for these students, and, if need be, to lobby subtly for reduced standards in other courses.¹⁹ In addition, as remediation has grown, administrations have relaxed policies for "no-penalty" withdrawals and drops.²⁰ The result can be an attenuation of effort on the part of non-remedial students.

All of the above has concerned the effect of lower admission standards on the learning of other stu-

dents. There is another set of external costs imposed by lower admission standards that has nothing to do with the amount of learning, but is merely redistributive. Due to imperfect information, students are judged, in part, by the average quality of the group with which they are pooled. Thus, students who are admitted to college under lower standards gain something simply by being pooled with more qualified students, even if they do not graduate. The flip side of the coin, however, is that this reduces the average quality of the students with whom the more qualified students are pooled: they suffer a dilution of their accomplishment at having been accepted. These costs can be concentrated on qualified minority students, when the admission of less qualified minority students creates a stigma, the phenomenon of "statistical discrimination."²¹

There is yet another redistributive effect, not commonly factored in, and that is the effect on the non-college-bound. When the admission standard is lowered, the most ambitious of those below the bar will choose to attend college, and that reduces the average quality of those who remain behind. Thus, the value of a high school diploma is further debased by the effect of siphoning off the more ambitious students, even if the high school graduation standard is unchanged. To summarize, the pure redistributive effect of lower admission

The benefits of minority representation must be weighed against the costs of mismatch when students are admitted under disparate standards.

standards is to help the marginal college admittees at the expense of both the students above and the students below them on the educational ladder.²²

This discussion has covered a lot of ground. Economic theory predicts that lower admission standards create a number of potential losers, as well as potential winners, up and down the educational ladder. This much is obvious, since if there were no losers, then admission standards should be eliminated, and if there were no winners, then they should be made impossibly high. But economic analysis goes a bit beyond stating the obvious, to help logically elucidate who the winners and losers are, and, more importantly, why.

It is probably widely understood that lower admission standards impose costs on those students at the top of the ladder whose degree is devalued. But I think it is less well understood that costs are also imposed on those at the bottom of the scale, the non-college-bound who suffer from both adverse pooling effects and low high school standards. Moreover, it is not widely understood that lower admission standards probably further reduce the college graduation rate among those who are not the most likely to graduate anyway, by lulling them into lesser preparation. Indeed, this effect could outweigh the number of graduates from among those remediated, leading to the wholly unin-

tended consequence of a decline in the total number of college graduates.

Students are acutely aware of at least some of the external costs of low admission standards. Not long ago, a columnist at my institution wrote in the student newspaper,

I am sick and tired of being in the same classes with students who don't know the slope of a line [or] what Manifest Destiny meant for America. Standards at UMass are dismal because we admit anyone with a pulse.²³

I have heard from enough students who privately complain about the debasement of standards, and the threat this poses to the value of their degrees, to know that they are the tip of the iceberg, in an environment where such concerns are not popular to express. From their testimony, I conclude that the lessons of economic theory are certainly correct: there are substantial costs imposed on these students that must be weighed against the benefits—and costs—of those who are offered remediation at 4-year institutions. We now turn to consider more closely the effects on the remedial students themselves.

Non-Budgetary Costs: Mismatch of Remedial Students to Institutions

The effectiveness of remedial and post-remedial education rests crucially on the degree to which students are well-matched to institutions. The costs of mismatch are potentially most serious when remediation occurs at state colleges and even top research-

class universities. Public authorities are now asking whether some students might be better matched to remediation at the 2-year campuses, followed by transfer to the 4-year schools if the remediation is successful. Admitting students who need remediation at the 4-year campuses might actually reduce the number of graduates in the targeted group, not raise it, if it puts them in over their heads, and discourages them, rather than allowing them to work their way up from the community colleges.

The college and university administrations, however, often argue that community colleges are no substitute for immersion on their campuses.²⁴ It is pointed out that students who start off at a community college are less likely to receive a bachelor's degree than are those who start at a 4-year college.²⁵ But this sort of uncontrolled comparison is useless, since students who attend community college have a very different statistical profile than those who attend 4-year colleges. They are more likely to require remediation, and more of it, so the comparison does not tell us anything about the relative success at 2-year versus 4-year institutions of students who require the same degree of remediation, and are of otherwise equal qualifications.

The other finding often cited in support of continuing remediation at 4-year institutions comes from a national transcript study: among students with more than one semester of credits, the eventual college completion rate is 47% for those taking one

remedial course, which is not much below the 55% rate for those with no remediation. Clifford Adelman infers that "We should not worry about students who take only one remedial course."²⁶ However, it is not clear how pertinent this finding is to the issue at hand, for three reasons. First, the finding is not broken down between 2-year and 4-year colleges. Second, it is restricted to those who have completed a semester of college credits; but students who require remediation are less likely to achieve this status than non-remedial students, so the finding is less useful for predicting success *prior* to remediation. Third, and perhaps most important, there are wide variations in college preparedness even among students who need only one remedial course, as discussed below.

One of the main reasons put forth for remediation by 4-year institutions is to maintain minority enrollments.²⁷ But the benefits of minority representation must be weighed against the costs of mismatch when students are admitted under disparate standards, as is often true for remedial students.²⁸ Thomas Sowell has for many years spelled out the chain reaction of mismatch,²⁹ as preferential admissions at top-ranked schools lead to further mismatch at schools farther down the ladder.³⁰

The main empirical study of the costs of mismatch is "College Selectivity and Earnings," by Linda Datcher Lourey and David Garman, of Tufts University.³¹ This study found that

the benefit, in higher earnings, of attending a more selective college

is offset for students whose own SAT scores are significantly below the median of the college they attend. This results from the lower probability of graduation for 'mismatched' Blacks and the subsequently lower earnings for those who fail to complete college.

College graduation, of course, is not the only relevant measure of success. College GPAs and major are also important determinants of future earnings. Indeed, the Loury-Garman study found some evidence that college GPA is a stronger predictor of earnings for black students than for whites. It would be helpful to know how remedial students fare in the rest of the curriculum if and when they complete their remediation, but university administrations rarely supply this type of data.

Professor John Palmer, of the University of Massachusetts at Amherst, provides a case study, with very disturbing data collected from freshman biology courses. These data pertain to "special admits," i.e., students who do not meet the regular qualifications for admission to UMass. Although this group is not coterminous with the remedial group, the overlap must be substantial. Among Fall 1997 first-time freshmen, approximately 7-8% were "special admits," and 8% enrolled in remedial courses.

Black (and a few other) "special

admits" are assigned to the Committee for the Collegiate Education of Black and other Minority Students (CCEBMS), for tutoring, mentoring, advising, etc. About a month into each semester, professors are asked to provide status reports to CCEBMS on the academic progress of these students. Since Professor Palmer has regularly taught (or co-taught) a very popular course (Biology of Social Issues), the number of such reports he has filed is sizable. Each year, he noticed that these students were not doing well, and he hoped that CCEBMS would be able to remediate them as the term went along. However, at the end of each term, their scores had not improved.

Over the 5-year period 1994-98, Professor Palmer's 71 CCEBMS students earned 50 F's, 21 D's, and nothing higher. Their scores (on machine-graded multiple choice exams) have averaged 46%, compared with a course average of 72%. Similar results have been observed in other biology courses, taught by different instructors (including the winner of one of the University's coveted Distinguished Teaching Awards). In the Fall of 1997, the 45 CCEBMS students enrolled in the first semester of Introductory Biology averaged 51% performance in the second semester, among 15 CCEBMS students, was 48%. Few, if any, of these students took more than one remedial course,

since only 10% of remediated first-time UMass freshmen do so. Thus, these data rather clearly indicate that one should not be complacent about students at 4-year institutions who only require one remedial course. For students who meet regular admission requirements of high school GPAs

and/or SATs, so they are reasonably matched to their fellow students, one remedial course may indeed not be an insuperable obstacle.

However, in many institutions, a number of the students requiring even such limited remediation are those for whom the regular admission requirements have been waived. This suggests that it may be important to distinguish among remedial students on the basis of their other qualifications.

Many of the UMass biology students will no doubt recover from this failure, perhaps guided by CCEBMS to classes and subjects more nearly suited to their academic preparedness. But the costs imposed on them are nonetheless substantial. As the director of CCEBMS has written, "they are distressed, questioning their academic ability..." a result which faculty across the campus have encountered in a variety of disciplines. Professor Palmer writes, "The sensible thing for under-prepared students with college aspirations to do is to begin at a community college where classes are small enough for a good deal of personal attention,

"The sensible thing for under-prepared students with college aspirations to do is to begin at a community college where classes are small enough for a good deal of personal attention, and where courses are less rigorous."

and where courses are less rigorous." By starting at a community college, students might also find that their choice of major is less constrained than at a research-class university, where the sciences and other demanding fields are filled with very talented students, and the competition is very stiff.³²

The UMass case study carries further lessons, unfortunately, in the institutional response to the evidence of its own costly policies. Professor Palmer repeatedly wrote to the top officials at the University regarding these data (deans, provosts, the Chancellor, and the President). He has never received an acknowledgment of these discouraging data. Other faculty, to whom he has shown the data, also wrote and got no response. The administration has made it clear that its primary interest is in meeting its quota of minority enrollments, and only secondarily in the costs of failure.³³ As a result, students, faculty, and the administrative units that are charged with serving mismatched students are put in a very difficult position. The CCEBMS, in particular, has few tools at its disposal in trying to achieve a high graduation rate among its students.

After years of receiving the discouraging data from Professor Palmer, his co-teachers, and other colleagues in the biology department, CCEBMS finally responded. They complained to Professor Palmer's chairman, and followed up with a written complaint to his dean, copied to the provost and the Assistant Vice Chancellor for Enroll-

ment. The problem, CCEBMS charged, was a "problematic teaching situation." Specifically, according to Professor Palmer, he and his chair were informed by CCEBMS that the average in the course should have been 78 or higher, not 72. That is, since there seemed to be no obvious solution to the wide gap between grades earned by the CCEBMS and non-CCEBMS students, the diagnosis was that the entire class' grades were too low, purportedly due to Professor Palmer's teaching.³⁴

This type of intervention, by an administrative unit with no teaching responsibilities, sent a clear message, whether intended or not. The complaint singled out the one instructor who tried to draw attention to the problem, and ignored the evidence of mismatch in other biology courses. Word travels fast among faculty, and there are surely those who will reasonably infer that the way to avoid trouble is by lenient grading or assigning less demanding content.

This example illustrates how an institution's attempt to minimize the costs of mismatch can, instead, end up passing on some of those costs to other students in the form of lower standards. The source of the pressures can be seen in the Fall 1997 admissions data at UMass/Amherst. The average high school GPA of incoming freshmen was 3.09, but a number of students (47) were admitted with high school GPA below 2.0.³⁵ Since a UMass GPA of 2.0 is required to graduate, the institution somehow has to find courses for these students that are easier for

them than the courses they encountered in high school.

Moreover, the difficulty is concentrated by ethnicity. The minimum GPA for regular admission was 2.75,³⁶ but the *average* GPA of black incoming freshmen was 2.53, including both regular and special admits.³⁷ The advocacy groups for "at risk" students are handed a difficult problem, with few alternatives but to find easy courses for their students (including independent study credits with cooperative faculty), to selectively and subtly lobby for reduced standards, or, when all else fails, to arrange for withdrawals, even into final exam week. The University of Massachusetts is hardly unique: these practices are not uncommon across the country.

Conclusion

The benefits of remediation are that some students will go on to graduate, and even among those who do not, some will acquire skills they had not acquired in high school. The costs of remediation include budgetary and non-budgetary costs. Budgetary costs are most informatively expressed on a per-student basis rather than as a percentage of higher education expenditures. If remediation is tightly linked to admissions policy, as under pre-admissions remedial testing, then there are non-budgetary costs as well. The unintended consequences of low

admission standards include a variety of potentially large external costs imposed on other students. Among other effects, economic theory predicts a

At those institutions where remediation should be restricted, the link should be tightened between remediation and admissions.

lower graduation rate among some students who are lulled into a lesser degree of preparation. Low admission standards also impose external costs by reducing college course standards, and by acquiescing in low high school standards. In addition to external costs, policies of disparate admission standards impose costs of mismatch on some of the intended beneficiaries, who might do better in community colleges, or in 4-year state colleges instead of research-class universities.

Clearly, the costs of remediation vary widely, depending on the student and the institution. Obviously, the non-budgetary costs of remediation are lower in the community colleges than in the 4-year state colleges, which are lower than in the universities. The costs of remediation are certainly lower for older individuals returning to college, who have forgotten their high school math, than for younger students who never learned it. The costs are lower for individuals who demonstrate the aptitude for overcoming specific deficiencies in math or writing by meeting regular admission standards, than for students whose high school grades and SATs fall well short of those who would be their classmates in a selective university. Such relative cost

considerations should inform remedial policies.

Finally, all of this is predicated on the link between remediation and admission standards. But what if the link is only one-way? Obviously, a higher admission standard for high school GPA and SATs will reduce the amount of remediation required, but the converse does not immediately follow: restrictions on remedial offerings need not lead administrations to raise admission standards.

The problem is that university administrations do not bear the costs of low admission standards, or of selective exemptions from these standards. They are borne by those students who are ill-served by the well-intended generosity of admissions offices; they are borne by parents and high schools, who can no longer credibly urge the young to work hard in order to get into college; they are borne by better prepared students who find their university educations diminished by lax standards; and, of lesser importance to be sure, they are borne by faculty who face the challenges both of educating students of vastly disparate

qualifications, and of dealing with the disappointments of young men and women who are in over their heads, through no fault of their own.

It would be unwise, therefore, to restrict remediation in the hope that this would in and of itself raise admission standards. For this to occur, one would be hoping that cutting off remediation would raise the costs to administration of persisting with low admission standards. However, this would only be true where remediation really made a big difference in student success, i.e., at those institutions where remediation's benefits are greatest.

At those institutions where remediation should be restricted, the link should be tightened between remediation and admissions, with pre-admissions remedial testing, at least for students with low GPAs and SATs. This would have the additional benefit of improving the incentive effects of such testing. The signal sent to high schools and their students by a post-admission placement test is far weaker than a remedial admissions test itself.

¹ I would like to acknowledge the helpful comments and suggestions of Dale Ballou, Julian Betts, Daphne Patai, Mike Podgursky, Jeff Sedgwick, and Sandy Stotsky.

² Ironically, the growth in remediation, in the 1980s, was in part due to pressure from public authorities with a lax view of admission standards, but a strict view that "every student admitted deserves the opportunity to make up for inadequate preparation..." (in the 1989 words of the Massachusetts Board of Regents of Higher Education). The pendulum has now swung back, as some of the same public entities, including the Massachusetts Board of Higher Education (BHE), try to reduce remediation against the resistance of some of the educational institutions they govern. The most dramatic example was the recent policy change (discussed below) of CUNY Trustees at a meeting disrupted by protesting students and faculty. Trustee Herman Badillo charged that CUNY administrators "used every tactic possible to prevent the vote and create the most destructive atmosphere that could be presented." (*Chronicle of Higher Education*, June 5, 1998, p. A26)

³ "Remediation in Higher Education: Its Extent and Cost," *Brookings Papers on Education Policy: 1998*, Brookings Institution, Washington, D.C., pp. 359-371.

⁴ U.S. Department of Education, National Center for Education Statistics, *Remedial Education at Higher Education Institutions in Fall 1995*, NCES 97-584, by Laurie Lewis and Elizabeth Farris. Bernie Greene, project officer. Washington, DC: 1996, Table 3. The 29% figure cited by Breneman and Haarlow includes private institutions.

⁵ An Appendix is available on request for detailed discussion of the points in this paragraph.

⁶ *Digest of Education Statistics, 1997*, Tables 182, 191. On the four-year campuses, the figure is 13% of total enrollments and 16% of undergraduate enrollments. Perhaps most surprisingly, even on the 2-year campuses, first-time freshmen constitute only 18% of enrollments. (Tables 181, 198)

⁷ Table 3 in the NCES study indicates that for 2-year public institutions, 41% of first-time freshmen are enrolled in a remedial course in reading, writing, or math. For each of these respective areas, the figures are 20%, 25%, and 34%, summing up to 79%. Thus, if students take no more than one course in each area, the average would be $.79/41 = 1.93$ courses per remedial student. (The corresponding figure for public 4-year institutions is 1.73.) Since some students take more than one course in, say, remedial math, the average must be around 2 courses.

⁸ Suppose the normal full-time course load is 10 courses/year. NCES classifies a student as a full-time enrollee if his or her credits exceed 75% of the normal full-time load. So, the average full-time student has a load of perhaps 9 courses. To factor in part-time students, consider that the number of FTE's is 70% of the number of enrollments (*Digest of Education Statistics 1997*, Tables 191, 200). Thus, the average student load is about 70% of the average full-time student load, or 6.3 courses (9×0.70). The two-course average remedial load is 32% of this.

⁹ *Brookings Papers on Education Policy: 1998*, pp. 376-81.

¹⁰ By contrast, Bronx Community College remedial instructor Nahma Sandrow, who reports a very high failure rate in her courses, concludes that "many of our students, especially at the lower levels of remediation, would learn more in a different setting: in smaller groups not subject to the college calendar of only four hours a week and a 16-week semester, and not subject to the college system of credits and grades." ("Remedial Education Through a Teacher's Eyes," *Forward*, April 10, 1998.)

¹¹ If they are over 18, the student and the sending school might share tuition. Under such a system, both the student and the high school would have an incentive to avoid this eventuality, and, failing that, the student would have a greater incentive to make good on the second try.

¹² *Chronicle of Higher Education*, Academe Today, News Update, January 10, 1998. The Mayor pointed out that 68% of incoming freshmen at the 4-year colleges fail one or more of three tests (in math, writing, or reading). For the community colleges the corresponding figure is 86%.

¹³ "Implementation Guidelines for Massachusetts Board of Higher Education Developmental Education Policy for the Commonwealth's Public Colleges and University," 1997.

¹⁴ The plan adopted by CUNY essentially converted the remedial placement exam to an admissions exam (although details are still to be worked out, including possible modifications of the exam). Those who fail will be required to receive remediation either in the summer, or at a community college, prior to enrolling at a 4-year college. Pre-admission testing is also a key component of the Massachusetts BHE's policy; however, the University of Massachusetts' Task Force opposes this primarily because it may be "perceived by potential applicants as an irksome hurdle..." ("Report of the Task Force on Remedial Education," April 10, 1997, p. 12)

¹⁵ This discussion is based on a formal mathematical analysis in Robert M. Costrell, "An Economic Analysis of College Admission Standards," *Education Economics* (1), 1993, pp. 227-241. See also Robert M. Costrell, "A Simple Model of Educational Standards," *American Economic Review* (84), 1994, pp. 956-971, and Robert M. Costrell, "Can Centralized Educational Standards Raise Welfare?" *Journal of Public Economics* (65), 1997, pp. 271-93.

¹⁶ This is formally demonstrated on pp. 235-237 of "An Economic Analysis of College Admission Standards," *op. cit.* This analysis applies to the admissions problem the 1989 model of C. F. Manski, "Schooling as experimentation: a reappraisal of the postsecondary dropout phenomenon," *Economics of Education Review* 8, pp. 305-312.

¹⁷ In addition, even if standards are not lowered, there may be an adverse peer effect on the ability of other students in the class. The primary reason why students aspire to competitive colleges is for a favorable peer effect: students learn from each other, as well as their professors. By diluting the quality of one's peers, lower admission standards impose costs on more qualified students. Of course, symmetrically, the marginal admittees may gain a more positive peer effect than at less competitive institutions. However, my guess is that much of what appears to be a peer effect, one way or the other, is actually the effect on standards in the classroom, i.e. on the pace and degree of rigor set by the instructor.

¹⁸ An example is provided by the rhetorical question posed by Chancellor David Scott of the University of Massachusetts at Amherst, "Will we continue a philosophy of creating winners, rather than increasing sophistication at selecting pre-determined winners (higher SATs)..." ("Ten Irreducible Facts," 1998).

¹⁹ A possible example of this, from the University of Massachusetts at Amherst, is given below.

²⁰ Clifford Adelman's transcript study finds evidence of "the growing proportion of withdrawals, incompletes, and no-credit repeats, all of which are now treated as non-penalty grades by many institutions" (*The New College Course Map and Transcript Files*, Office of Educational Research and Improvement, U.S. Department of Education, October 1995, PE95-8001, p. 266).

²¹ For a formal analysis, see Stephen Coate and Glenn C. Loury, "Will Affirmative-Action Policies Eliminate Negative Stereotypes?" *American Economic Review* 83 (5), 1993, pp. 1220-40. A more generally accessible analysis can be found in Glenn C. Loury, "Economic Discrimination: Getting to the Core of the Problem," Chapter 6 (including Appendix) of his book, *One by One From the Inside Out: Essays and Reviews on Race and Responsibility in America*, Free Press, New York, 1995.

²² The analytics of this paragraph (albeit for high school graduation standard, rather than college admission standard) are formally modelled in Julian R. Betts, "The Impact of Educational Standards on the Level and Distribution of Earnings," *American Economic Review* (88), 1998, pp. 266-75.

Robert M. Costrell

²³ Erik Molitor, "UMass needs to bring standards up," *Massachusetts Daily Collegian*, December 9, 1996. Since then, the Board of Higher Education has modestly raised admission standards for the state's 4-year institutions, although these standards are waived for "special admit" students.

²⁴ An example of this is found in Massachusetts, in the debate between the Board of Higher Education (BHE) and the University of Massachusetts. Until recently, the rate of remediation averaged 26% of incoming freshmen at the 4-year state colleges, and 18% across the University's five campuses (including 13% at the flagship campus in Amherst). The Chairman of the BHE, James Carlin, concluded "Remedial is all about money. Because campuses keep the student fees they collect, there is a very strong urge to keep as many chairs filled as they can, and if it takes remedial courses to do that, they want to keep offering them." The BHE has mandated that the state colleges and the University reduce their remediation to 10% of incoming freshmen by Fall of 1997 and 5% by Fall of 1998. This is to be accomplished by either completing remediation prior to matriculation, or transferring remediation to the community colleges (where 59% of first-time freshmen are remediated). The 4-year state colleges, which are directly under the BHE's authority, have complied. The University of Massachusetts has opposed this approach, using arguments such as those given above, although there has been some recent reduction in the rate of remediation of entering freshmen as a result of higher admission standards and better high school preparation. ("Report of the Task Force on Remedial Education, University of Massachusetts," April 10, 1997; *Mindpower in Massachusetts*, Massachusetts Board of Higher Education, 1997; "UMass Opposes Remedial Limits," *Boston Globe*, May 28, 1997; "Remedial Studies at State Schools Detailed in Report," *Boston Globe*, February 15, 1997.)

²⁵ The lower persistence toward bachelor's degrees among bachelor-degree-seeking students who begin at 2-year colleges is entirely confined to those who do not make the transfer; for those who do make the transfer, persistence rates are the same after five years, although fewer of them have actually received the degree by then (*Postsecondary Persistence and Attainment*, NCES 97-984, p. 11).

²⁶ "The Truth About Remedial Work," *Chronicle of Higher Education*, October 4, 1996, p. A56.

²⁷ "[R]estricting remedial instruction to community colleges could impair the ability of four-year campuses to recruit and graduate a diverse student body." ("Report of the Task Force on Remedial Education," University of Massachusetts, *op cit.*, p. 10.) The CUNY administration also claimed that minority students would be disproportionately affected by the new rules: 55% for Hispanics, 51% for Asians, 46% for blacks, and 38% for whites ("CUNY's 4-Year Colleges Ordered to Phase Out Remedial Education," *Chronicle of Higher Education*, June 5, 1998, p. A26). Nationally, the Adelman transcript study finds the following percentages of students receiving remedial credits, among students who completed more than 10 credits overall: 64% of blacks, 60% of Hispanics, 46% of Asians, and 42% of whites (*op cit.* Table 6.3).

²⁸ For example, Breneman and Haarlow report that New Jersey's "Opportunity Program," for inner-city students who do not meet regular admission standards, is one of three main groups under remediation. James Traub reports that at City College of New York (part of CUNY), about one-third of entering freshmen are admitted through the SEEK program, for low-income students who do not meet regular admission standards (which are rather modest). "The graduation rate among SEEK students was about 17 percent, half the rate among regular admission students" (*City on a Hill: Testing the American Dream at City College*, Addison-Wesley, Reading, MA, 1994, pp. 12, 108). Traub finds a big difference between the remedial experiences of SEEK students and ESL students, who often come from superior school systems overseas. This distinction is also reflected in the new CUNY policy, which exempts such ESL students from the remedial restrictions.

²⁹ *Preferential Policies: An International Perspective*, William Morrow, New York, 1990 and *Inside American Education: The Decline, the Deception, the Dogmas*, Free Press, New York, 1993, Chapter 6. Sowell credits Clyde Summers, "Preferential Admissions: An Unreal Solution to a Real Problem," *University of Toledo Law Review*, Spring/Summer 1970, with an early analysis of the mismatch problem.

³⁰ At the University of Massachusetts at Amherst, Chancellor David Scott writes, "in 1995 the yield [percentage of admittees who enroll] for students of color with SATs in excess of 1050 (old scale) was about 18% compared to 28% for majority students. The reason is not hard to diagnose. These students are sought after by many institutions..." (letter to Robert M. Costrell, February 25, 1998).

³¹ *Journal of Labor Economics* (13), 1995, 289-309.

³² The 4-year state colleges might also be better suited to such students than a research-class university. In Massachusetts, this would also equalize ethnic diversity across the system, since the state colleges have the lowest degree of minority representation, 11% of freshmen, compared to 21% at UMass/Amherst, and about 20% at the community colleges.

³³ In November 1992, after a series of building takeovers, the administration negotiated with student protesters an agreement "to aim for a goal of 20% minority freshmen." The University reached 20.7% in Fall 1996. In the Spring of 1997, during a six-day building takeover, the administration signed an expanded commitment with student protesters, to "achieve and maintain an overall goal of 20% [minority] undergraduate students through recruitment and retention." As Chancellor Scott wrote, shortly thereafter, "... a target of 20% had been set prior to my becoming Chancellor, the rationale for which was unclear to me" (letter to Robert M. Costrell, June 9, 1997). The University continues to have some difficulty explaining the 20% figure, since minority students comprise only 17.5% of the Commonwealth's high school graduates, and only 13.4% of those who are bound for four-year colleges. The difficult task faced by the University in meeting this commitment was illustrated in a particularly ironic aftermath, when one of the key leaders of the 1997 takeover wrote how appalled she was, the following fall, to find that some students were admitted with high school GPAs below 1.4, to meet the quota demanded by her group of protesters. She wrote, "As things stand now, they are fated to fail, most of them...While the university will be welcoming students through one door, they are making sure they exit out the other...Surely there are some programs set up to help with some deficiencies, but a 1.4 GPA is beyond the scope of what exists presently to assist students" (Deepika Marya, "In the Spirit of the Living Document?" *The Graduate Voice*, University of Massachusetts, September 1997).

³⁴ Professor Palmer's course evaluations in "Biology of Social Issues" have been quite favorable. When students taking his course were asked if they would recommend it to others, 93% said yes. The complaint was filed during Professor Palmer's last semester of a long and distinguished career at UMass, including a stint as department chair, and he remains active in his internationally-recognized research.

³⁵ This excludes learning disabled and ESL students.

³⁶ Students with lower GPAs can be admitted if their SATs are high enough. However, "special admits" do not meet that alternative minimum either. Their SAT scores are utilized in the admission decision, but are excluded from all university reports. The minimum GPA for regular admission rises to 3.0 for the class entering Fall 1998.

³⁷ The university has declined to provide a GPA breakdown between regular and special admits.

David H. Ponitz

The Breneman/Haarlow report is informative, balanced, constructive, and partially defines the practical issues facing us in the remedial/developmental education debate. Further, it leads to a series of other questions and information yet needed to help all individuals have a real opportunity to obtain and hold a sustainable job.

I define my general comments into two segments—remedial and developmental.

Remedial Education

Remedial education centers mostly on high school age or recently-graduated high school students. With that group of students there is a large concern by educators, legislators, and the general public that more “academic souls” need to be saved *before* they graduate from high school.

The fire storm of words is upon us:

- When will remedial education stop?
- What are the action steps to improvement?
- No double dipping of public funds!
- Why can't they learn like we did?

I agree. More needs to be done. But for the most part, the solution to remedial education issues is not as simple as some would suggest. More students with a wide variety of abilities and cultural backgrounds attend high school than ever before. For a

variety of reasons, they don't learn well using traditional instructional methods:

- Many teachers are in situations where student respect for teaching and learning is a quantum jump behind where it was a generation ago. And some faculty simply do not have the skills to cope with this new environment.
- Our understanding of the physiology of learning has changed dramatically—and most advocates for improvement do not fully understand the implications. For example, a wide body of information suggests that more time on task alone may not necessarily solve the concerns forcefully articulated. A move away from abstract to contextual learning may be in order.
- Business and industry spend large sums on the development of their personnel to face new challenges. Unfortunately, traditional education budgets don't allow faculty to address these new, dynamic, up-to-date issues of learning. Most are expected to upgrade their own understanding of learning styles on their own, and a large body of evidence suggests that this strategy does not work.
- And last, what have our reading/math experts done in schools of education? Observation suggests

that graduates of universities don't teach much differently than they did years ago. Remember, the educational environment has changed dramatically, no, concussively! If this is the case, why don't we insist that teachers of teachers help with the solutions and make changes we all agree must be made?

It is obvious that specifically defining, benchmarking and researching individual parts of the learning puzzle are needed. I hope that this discussion moves us a step closer to those activities.

Developmental Education

Developmental education centers on adults who need new skills that they may never have learned or have long forgotten. As a community college president of 35 years, I am more a person of action and less prone to philosophy. If adults (most community colleges' average student age is over 30) do not have the skills to meet new job requirements then we must make action a priority, and not just find fault. I offer these thoughts for consideration and discussion:

- Today 80% of sustainable jobs require some education beyond high school (not necessarily a two- or four-year degree), while at the turn of the century, only 3% of high school graduates went on to university programs.

The solution to remedial education issues is not as simple as some would suggest.

- And how the world has changed. Today, 65% of the work force need the skills of a generalist/technician, including advanced reading, writing, mathematical, critical thinking, and interpersonal group skills. Twenty years ago, the Department of Labor reported that the figure was only 15%—a huge change. Even former semiskilled jobs have changed. I worked my way through college as a spot welder. Now that position is obsolete, and in its place is a robot. It is programmed, operated, and maintained by a single person who is also responsible for general quality control as well as statistical process control. It is a totally different job—one that takes vastly more skills than I had.
- So it is essential to assess student needs, and if deficient, educate them to higher levels. As a *Wall Street Journal* writer said, "Community colleges take students from \$7.00 per hour jobs to \$17.00 per hour jobs." But many students need special help to learn what they need to obtain these jobs, and special help should be a top priority.
- The process of obtaining those updated mathematical/language skills requires a unique combination of attentive students, multiple learning opportunities, skilled teaching, and, oftentimes, advanced technology.

David H. Ponitz

- Those processes work. Many colleges report that students who take developmental courses have a higher level of retention than non-developmental students do. This may be a product of age, maturity or job desperation—but the facts are there to further explore.

Now we come to the humbling part for each of us who considers ourselves educated. Although we know the basics, the fact of the matter is the organizations we represent need to change as much as the world around us. Already we have “raised the bar” far higher than we imagined when we were in high school or college. What we need to know to be a productive member of our own organization has increased dramatically. Each of us is

ignorant in different areas, and if we are to retain our lofty positions, we need to be involved in developmental education of a different sort. Our organizations usually help us grow. They take pride in that growth. They insist on that growth. We all need a broad, high level developmental education upgrade if we are to remain productive.

Allow me to reemphasize the concluding paragraph of Breneman's and Haarlow's study: the small public investment in remedial education more than pays for itself in the long run. Let the dialogue continue—but let's determine progress, review taxes paid by those individuals who got their start in developmental education, and by all means benchmark best practices for continued improvement.

Laurence Steinberg

There is good news and bad news in Breneman and Haarlow's analysis of data on the extent, cost, and nature of remedial education in U.S. public postsecondary institutions.

The bad news is that we still know precious little about how much the nation spends on postsecondary remediation, about the content of such courses, about the prevalence of such instruction, or about the characteristics of students who enroll in such classes. This news is bad because, without accurate estimates of the prevalence, nature, and cost of remediation, we cannot say whether the current state of affairs is especially worrisome, or merely today's version of what has always taken place in colleges and universities; whether most of the students enrolled in such courses are standard products of deficient secondary schools, or deserving adults attempting to compensate for inadequate earlier schooling; or whether the content of remedial instruction is aimed chiefly at teaching what clearly should have been learned in high school or targeted instead at preparing students for an advanced level of postsecondary instruction that their high schools could not have anticipated. Without knowing which of these very plausible scenarios is correct—or, more likely, what the relative extent of each of the various scenarios is—it is virtually im-

possible to make sensible policy recommendations.

The good news, ironically, is exactly the same as the bad news. How can this be? The fact that we know so little about the cost, nature, or consumers of remedial education is good—perhaps one should say comforting—news because it is very likely that more accurate data on these indicators would show that America's education system is performing much more poorly than even its harshest critics have suspected. Many overly optimistic commentators on the state of American education point with pride to our world-leading record of college matriculation, noting that relatively more American youngsters enter postsecondary institutions than is the case in other industrialized nations. The absence of good data on remedial education in U.S. colleges and universities permits such commentators to maintain the air of accomplishment that accompanies such self-congratulatory pronouncements. If we were to discover that a very substantial number of the college entrants we take so much pride in are in fact enrolled in courses in how to read, spell, and add, we might not be so boastful. When it comes to data on remedial education in postsecondary institutions, ignorance may be a necessary condition for bliss.

Breneman and Haarlow's analysis provides a useful starting

point for a discussion of these issues, but, as the authors acknowledge, it provides an unsatisfactory place—to say the least—to conclude that discussion. According to their report, neither educators nor state officials can agree on what constitutes remedial education and what does not. In addition, different organizations give wildly different estimates about the proportions of remedial enrollees who are recent high school graduates versus adults returning to school after a long hiatus in pursuit of skills and knowledge they had not previously acquired. And whereas some analyses of remedial course content suggest bona fide instruction in higher-level subject matter, others suggest that remedial classes are repeating what should have been learned by eighth grade.

So what are we to conclude on the basis of Breneman and Haarlow's examination? That remedial education at colleges and universities is no more prevalent today than in the 18th century; that the main beneficiaries of remedial instruction are upwardly-mobile adults whose long-ago high school education could not anticipate the demands of today's colleges and workplaces; and that remedial instructors teach material at a level that is only slightly below what is taught in legitimate entry-level college classes? Or, in contrast, that today's postsecondary reme-

When it comes to data on remedial education in postsecondary institutions, ignorance may be a necessary condition for bliss.

dial education is an embarrassing and costly attempt to compensate for a public education system that is failing miserably; that many, if not most, of the recipients of this instruction are students who have been socially promoted along the pedagogical people-mover we call public education; that the course content of most remedial classes

would bore a competent seventh-grader; and that the extent and cost of remediation is knowingly and grossly underestimated by state agencies and postsecondary institutions? If you believe that the former characterization is likely to be correct, please contact

me at the address provided in the foreword. I have a used car you might be interested in buying.

The Growing Prevalence of Remedial Education

My suspicion that postsecondary remedial education is far more prevalent, and far more costly, than the analysis provided by Breneman and Haarlow suggests derives from empirical data on academic achievement among American high school students, political skepticism, more than twenty years of experience as a university faculty member, and a perspective on education that worries as much about the students *not* enrolled in remedial classes as about those who are. Let me elaborate on each of these points.

Thanks to systematic sur-

veys like the National Assessment of Educational Progress and the Third International Math and Science Study, we have fairly good data on the actual academic competencies of U.S. high school students. According to most indicators, even in our best-performing states only one-third of American high school students meet or exceed predetermined levels of grade-appropriate proficiency in math, science, reading, and writing. The low absolute level of proficiency of U.S. high school students is borne out by recent international comparisons. On standardized tests of math and science, our 12th-graders perform about as poorly as their counterparts from the worst performing industrialized countries in the world. Even if we assume that *none* of these sub-proficient students graduating from American high schools goes on to postsecondary education (surely an untenable assumption), the fact that close to 60 percent of U.S. high school graduates do attend college means that an awful lot of college-bound young people cannot do, and do not know, the things that educators agree that high school graduates ought to know and be able to do. Yet the estimates provided by Breneman and Haarlow suggest that "only" thirty percent of entering freshmen require remedial education. Either the designers of NAEP have overstated the meaning of "proficiency," or American colleges and universities are being dishonest about which of their courses are, and are not, genuinely

remedial. I'd place my money on the proficiency ratings of the National Assessment Governing Board and its advisors.

It is also reasonable to assume that official estimates of the extent and cost of remedial education are deliberately understated. Asking state education departments to estimate the amount of money their postsecondary institutions spend on remedial education is like asking the tobacco industry to estimate how much is spent each year to treat lung cancer. The widespread provision of remedial education at colleges and universities is a well-kept secret that is shared by state education officials, secondary school administrators, postsecondary educators, college students, and the vigorous lobby of remedial educators (who have had to change their moniker to "developmental educators" in order to avoid public wrath).

The practice of systematically underestimating the extent and cost of remedial education has many beneficiaries: state educators profit from it because the weak performance of their elementary and secondary systems remains partially hidden; secondary school administrators get to pass the cost of teaching basic skills on to postsecondary administrators; postsecondary educators can fill their dormitories and classrooms with warm bodies; college students can get course credit for classes that, if labeled remedial, would not count toward graduation; and remedial education instructors get to keep

their jobs. From a political and economic perspective, there are few constituencies with a stake in providing accurate data on the prevalence of remediation, and many with considerable incentives to understate the extent of the phenomenon.

The wide variability in remedial course enrollment estimates across states, according to the data presented by Breneman and Haarlow, lends credence to my

skepticism about the reliability of the data. It is true, as the authors suggest, that an eyeballing of the statistics indicates that about one-third of entering freshmen enroll in one or more remedial courses. But upon closer inspection, it would appear that the range of estimates given by various states is far too large to be anything other than a reporting artifact.

How else can one explain the fact that 60 percent of Maryland's high school graduates require remediation at college, while only 16 percent of Washington's graduates do? Recent NAEP data show virtually identical percentages of grade-appropriate proficiency in the two states. How can it be that the states have equivalent levels of student proficiency, but vastly different needs for remedial education? Although Breneman and Haarlow opt for an approach that averages data across states to

derive national estimates, it is not clear that this is necessarily the most valid strategy. Call me cynical, but my inclination is to believe that we should place more credence in the higher estimates than the lower ones, for all of the reasons listed in the previous paragraph.

Declining Standards

As a faculty member at a well-respected public university whose undergraduate admission

standards now barely exceed the requirements that one be able to breathe and grunt (although not necessarily simultaneously), I am privy to information on the extent of postsecondary remediation that is not captured in the estimates summarized by Breneman and Haarlow. It is quite clear that the typical college curriculum has been "dumbed

down" so that many courses which twenty years ago would have qualified for the remedial label are now offered as bone fide academic courses. One example from the undergraduate program in the psychology department of Temple University, where I teach, will suffice.

Most university psychology departments require undergraduate majors to take a semester of coursework on psychological statistics. When I first arrived at Temple, I was surprised (and pleased)

It is quite clear that the typical college curriculum has been "dumbed down" so that many courses which twenty years ago would have qualified for the remedial label are now offered as bona fide academic courses.

to discover that our majors were required to take not one semester of statistics, but two. It was only after I commented favorably on this requirement to a colleague that I learned that the department had been forced to split what had been a one-semester offering into a full-year course, because so many students needed two semesters to master what their predecessors had been able to learn in one. Of course, along the way what was one four-credit course became two four-credit courses, and anyone looking at students' transcripts (like myself) would be easily fooled into thinking that the students had double the statistics preparation that they actually had received. And consider the economics of this practice: In terms of faculty time, it now costs our department twice as much to teach the same course; consequently, we must either raise faculty teaching loads, hire additional instructors, or eliminate a more advanced course from the department's offerings. When you consider that this sort of practice has become standard fare at colleges and universities across the country, in all academic disciplines, you begin to see the magnitude and depth of the problem. We do not know, either, the extent to which this "dumbing down" of the regular curriculum is a consequence of allowing remedial course enrollees to take regular classes.

Unreliable Data

I do not question Breneman and Haarlow's careful summary of

the data they received from the states that cooperated with their survey, nor do I distrust the authors' motives. I do, however, worry about the uncritical stance they take toward the numbers they have been given and their willingness to let the data speak for themselves. For all of the reasons I have outlined thus far, I believe that there is very good reason to doubt the accuracy of the data provided to Breneman and Haarlow and to suspect that those who provided it have attempted to paint a picture of remedial education in their state that is rosier than is likely to be the case. I suspect that if the problem were investigated through other methods—for example, through surveys of college and university faculty about the content of their courses—one might end up with a very different set of estimates.

Whichever Kentucky state official told Breneman and Haarlow that the cost of remedial education in that state's universities was "zero," because it was covered by tuition, ought to be required to enroll in a remedial class in education finance. Regardless of where the money comes from, remedial courses must be staffed, which takes instructors out of regular classes, leading to fewer offerings, more crowded classes, or the need to hire additional faculty to teach regular courses. It is true, as Breneman and Haarlow note, that supplies for most remedial classes consist of little more than chalk and a blackboard (although let us

not forget the cost of handouts Xeroxed from the eighth-grade edition of *Warriner's English Grammar*). But student-faculty ratios need to be lower in remedial courses than in regular ones, which makes remedial instruction more expensive in terms of personnel. In addition, physical space, always at a premium on college campuses, must be allocated for reading, writing, and math "laboratories" (a euphemism if ever there was one), leaving less space for regular instruction and research facilities, and often necessitating the construction of new facilities or the renovation of old ones.

Not even included in these costs is the added money that universities must spend each year on student retention for undergraduates who take remedial coursework—on special social and academic programs designed to prevent students from dropping out—because universities know that students who enter college unprepared are more apt to leave school before graduating. As far as I know, there is no empirical support for Breneman and Haarlow's assertion that eliminating remedial education at colleges and universities would increase unemployment, enrollment in dead-end jobs, welfare dependence, or criminal activity. Indeed, given the high attrition rate among students who enter college unprepared, it is not clear that remedial education is an especially effective social intervention.

The Real Cost of Remedial Education

My most serious concern with Breneman and Haarlow's analysis, however, has little to do with the accuracy of their enrollment or cost estimates. Rather, I take issue with their definition of "cost." The cost of providing remedial education to so many college students cannot be measured in dollars alone. Even if we accept, as I think we should not, the authors' 30 percent figure, the fact that nearly one-third of college freshmen require refresher courses in eighth-grade math and reading is an awfully worrisome reflection on the state of American secondary education. Any analysis of the cost of postsecondary remediation must also ask what impact the existence of such widespread remedial opportunity has on the scholastic motivation of high school students and, by extension, on the academic climate of their schools. Providing remedial education in such basic academic skills as reading, writing, and mathematics to entering college students has trivialized the significance of the high school diploma, diminished the meaning of college admission, eroded the value of a college degree, and drained resources away from bona fide college-level instruction.

The widespread provision of remedial education in American colleges and universities is symptomatic of the "promote now, pay later" philosophy that has domi-

nated educational practice in this country for the last quarter-century. It is, in my view, part of the package that has made social promotion and self-esteem enhancement permanent fixtures in American public schools. I am not suggesting that the existence of college-level remediation has, in and of itself, *caused* the widely acknowledged achievement problems

that plague American secondary education. But surely it has not helped. If American high school students know that whatever they've slept through in junior and senior high school will be covered in college, they will continue to sleep. And that is a cost that Breneman and Haarlow fail to consider.



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